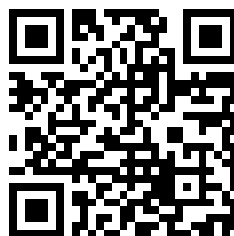

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HEADQUARTERS
DEPARTMENT OF THE ARMY



FM 31-11B-S

Field manual

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**SPECIAL FORCES
SOLDIER'S MANUAL
FOR
MOS 11B (SQI S)**

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Field Manual
No. 31-11B-S

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 16 October 1979

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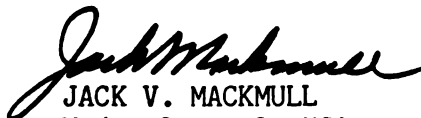
COMMANDER'S ATTENTION

Soldier's Manuals are designed to tell soldiers what tasks they must be proficient in to be MOS qualified. If soldiers follow the road map these manuals provide, they should progress readily to positions of responsibility commensurate with their aptitude and motivation.

Initial distribution of Soldier's Manuals will be made to the unit level, based upon assigned strength in the particular MOS and Skill Level. In the event additional manuals are needed by the unit for MOS study, libraries, or other training needs, requests for publications may be sent directly to the US Army Publications Center, 2800 Eastern Boulevard, Baltimore, MD 21220.

When soldiers are issued **Soldier's Manuals** by their units, they are responsible for retaining and maintaining them. If they transfer, they must return the manuals to their units.

This Soldier's Manual was prepared by the US Army Institute For Military Assistance.



JACK V. MACKMULL
Major General, USA
Commandant

RESERVE COMPONENTS

ARMY NATIONAL GUARD - ARMY RESERVE

This soldier's manual contains the critical tasks to be performed by the Active Army soldier in 11B MOS in an SQI S duty position on equipment available in the Active Army inventory.

Most tasks in this manual are applicable to you without changes. However, some tasks may require modification due to differences of equipment, facilities, and training time available to you.

Many tasks that you learned in BCT and AIT are in this manual. There are other critical tasks that you are responsible to learn on your own. Training references/materials are available and can be provided to you through your unit. This is where your initiative comes into play. It is to your advantage to take the initiative NOW. Your performance in your duty position will be based on your ability to perform all the critical tasks for which you are accountable.

CHAPTER 1

INTRODUCTION

HOW TO USE THE SOLDIER'S MANUAL FOR SQI S

COMMON SQI S TASKS

This soldier's manual for soldiers serving in an SQI S position contains tasks that each SF soldier must be able to perform in addition to those tasks for his skill level in his basic MOS. These tasks are listed under common SQI tasks and are contained in chapter 2. Although these tasks range from SL 1 through SL 4 for the conventional soldier, they are common tasks for the SF soldier.

TASKS FOR DUTY POSITIONS

Your duty position may require you to be able to do some additional tasks. These are contained in chapter 3, Additional Tasks for Selected Duty Positions.

WHY THE SQI S MANUAL?

There is a difference in critical tasks performed by the soldier in a conventional duty position and the soldier with the same MOS in a Special Forces duty position. Therefore, beginning in 1980, 25 percent of the tasks in the 11B SQT for the SF soldier will come from this manual.

As a Special Forces soldier, you need to study this manual as well as your basic 11B Soldier's Manual to pass your SQT.

CHAPTER 2

SPECIAL FORCES COMMON TASKS

All Special Forces personnel, regardless of grade and MOS, must be able to perform the tasks covered in this chapter.

You will find several tasks are the same as in your basic MOS soldier's manual; for instance, several 11B tasks at skill levels 1, 2, 3, and 4 are in this chapter. But for you, the Special Forces soldier, these are common tasks.

NOTE: The FM 7-11B tasks were prepared for conventional operations and use the terms platoon, squad, and team. For Special Forces operations, terms should be changed to detachment, team, element, etc., as appropriate for the particular situation/mission; i.e., unconventional warfare (UW), special operations, or foreign internal defense (FID).

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031-503-2001

READ AND REPORT RADIATION DOSAGES

CONDITIONS:

In a nuclear environment (simulated) while masked and wearing all individual combat equipment, given an IM93/UW series pocket dosimeter with a preset radiation dosage.

STANDARDS:

Read and report the correct radiation dosage within 20 rads.

PERFORMANCE MEASURES:

1. The IM93/UD and IM93A/UD are total-dose pocket dosimeters capable of indicating total exposure to radiation on a scale of 0-600 rads (fig. 1). The IM93/UD series dosimeter is designed to be carried like a ballpoint pen and will allow the soldier to determine the total amount of radiation he has been exposed to over a given period of time. It is normally distributed to a representative number of squad or platoon members to allow the commander to determine the average radiation exposure within the entire unit.

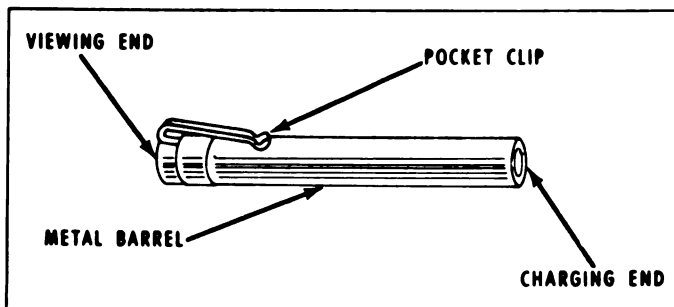


Figure 1

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2. To read the IM93/UD series pocket dosimeter:

- a. Remove the rubber cap from the charging end of the dosimeter.
- b. Point the dosimeter at a light source and hold the viewing end of the dosimeter to the eye.

- c. Read the value on the scale covered by the hairline (fig. 2).

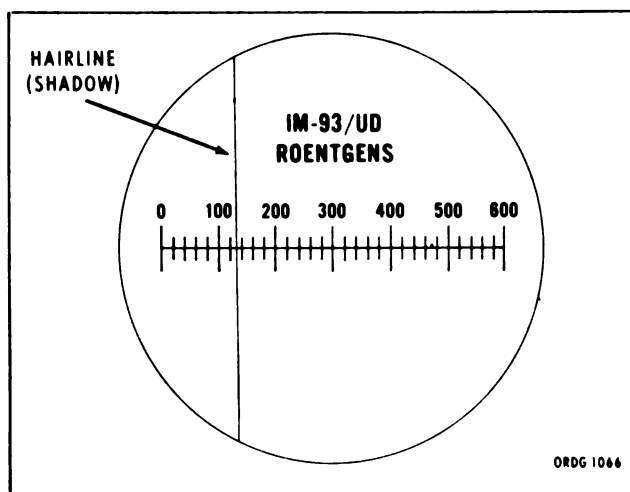


Figure 2

- d. Report the total number of rads indicated to your supervisor.

REFERENCES:

FM 21-40, NBC Defense

TM 11-6665-214-10, Operator's Manual: Radiacmeters IM93/PD, IM93/UD, IM93a/UD, and IM-174/PD, C1-3, Nov 62 (chap 4, page 20)

031-503-2002

DECONTAMINATE EQUIPMENT USING ABC-M11 DECONTAMINATION APPARATUS

CONDITIONS:

In a simulated NBC environment, while masked and wearing all individual combat equipment and gloves, given a prefilled ABC-M11 decontamination apparatus and a contaminated (simulated) weapon.

STANDARDS:

Place the M11 decontamination apparatus into operation and decontaminate the weapon.

PERFORMANCE MEASURES:

NOTE TO TRAINERS: Fill the M11 with water instead of DS2 for training purposes. When task is complete, thoroughly dry the M11 to prevent rusting, and heavily oil the weapon to prevent it from rusting.

1. The M11 decontamination apparatus (fig. 1) has a 1 1/2-quart capacity and normally holds 1 1/3 quarts of DS2 decontamination solution. It is normally mounted in wheeled and tracked vehicles, to be used to decontaminate surfaces which must be handled to operate the vehicle or allow it to perform its mission (e.g., laterals, steering wheel, driver's seat, and combat door, hatches, etc.)

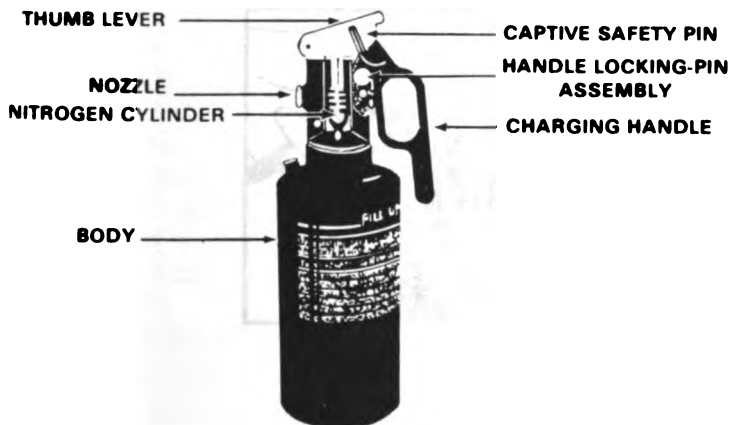


Figure 1

2. To operate a filled M11:

a. Remove the captive safety pin.

b. Grasp the M11 in one hand (fig. 2) and lift up on the charging handle with the other. You should hear a hissing noise which indicates the compressed gas from the nitrogen cylinder has entered and charged the M11.

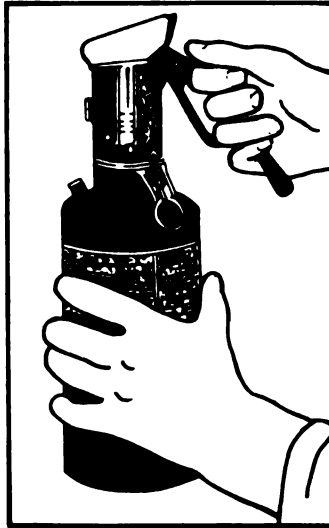


Figure 2

c. Pull up on the charging handle, point the apparatus at the object to be decontaminated, hold it 6 to 8 inches away, and depress the thumb lever (fig. 3).



Figure 3

d. The charged M11 will last about 30 seconds, so care should be taken to prevent wasting the DS2.

e. Having sprayed the object to be decontaminated, interrupt the flow by removing your thumb from the thumb lever.

f. Depress the handle locking pin, lower the charging handle, and replace the captive safety pin.

WARNING: DS2 is highly corrosive. DO NOT SPRAY ON PERSONNEL and avoid spraying fabric.

3. To decontaminate a contaminated weapon:

NOTE: For training, the M11 can be filled with water. Care should be taken to dry it out thoroughly when finished to avoid rusting.

a. Holding the charged and filled M11 6 to 8 inches from the weapon, depress the thumb lever and cover the weapon completely with the spray from the apparatus. Avoid getting spray on any surfaces that are not metal.

b. Wait 30 minutes (simulate).

c. Flush surfaces of weapon with water, taking care to avoid contact with the runoff.

d. Dry, clean, and lubricate weapon.

REFERENCES:

FM 21-40, NBC Defense

TM 3-4230-204-12&P, Decontaminating Apparatus, Portable,
DS, 1 1/2

031-503-3004

PROTECT SELF WHILE CROSSING A CONTAMINATED AREA

CONDITIONS:

You will be given:

A mission which requires you to cross a contaminated area.

All standard protective clothing and equipment.

Operational Exposure Guidance (OEG) has been established by the commander.

STANDARDS:

Cross the contaminated area safely.

PERFORMANCE MEASURES:

1. Put on all protective clothing and equipment, making sure all closures are fastened.
2. Fasten ABC-M8 detector paper (or Liquid Agent Detector) on your clothing/equipment.
3. Report the reading on the dosimeter to your supervisor.
4. Cross the areas as fast as possible, riding in a vehicle if available.
5. If a vehicle is available and time permits, place sandbags on the floor for shielding and travel buttoned-up mode.
6. Select routes along high ground and avoid contact with surfaces such as building, debris, woods, shrubbery, tall grass, and puddles which tend to hold the agents.
7. Try not to stir up dust.
8. Use the Automatic Chemical Agent Alarm and IM-174 Radiacmeter to continuously monitor for contamination.
9. After crossing, if the mission permits, use your detection

equipment to determine if decontamination is required; decontaminate, if necessary.

10. Read the dosimeter and report the reading to your supervisor.

REFERENCES:

FM 3-12, Operational Aspects of Radiological Defense, C1 and 2, Aug 68, (chap 5, para 5 and 6)

FM 21-40, NBC Defense

FM 21-41, Individual NBC Defense, Oct 77 (pages 69 and 70)

031-503-3006

DECONTAMINATE UNIT EQUIPMENT

CONDITIONS:

In a field or garrison location, given unit equipment contaminated with an identified chemical or radiological hazard (simulated) and the requirement to select an appropriate means of decontamination.

STANDARDS:

Select the appropriate decontaminant IAW performance measures below.

PERFORMANCE MEASURES:

1. A decontaminant is anything used to reduce the hazard caused by chemical, biological, or radiological contamination so the mission can be accomplished.

2. Chemical decontaminants include:

a. STB decontaminating agent (bleach). STB neutralizes liquid chemical agents by chemical action. Pure STB in direct contact with liquid blister agents reacts violently and can cause a fire. This is why STB is used in a dry mix (with dirt) or as a wet (with water). STB also corrodes metals. Wet mix is effective against biological agents.

WARNING: DO NOT USE STB FOR PERSONNEL DECONTAMINATION. DO NOT MIX WITH DS2 BECAUSE A FIRE MAY RESULT. Wear protective mask and gloves when handling STB.

b. DS2 decontaminating agent. DS2 neutralizes all known chemical agents and most biological agents. It reacts with G-agents, V-agents, and blister agents to reduce their hazards within 30 minutes after application. Ready-to-use solution is available in 1 1/3-quart cans and 5-gallon drums. DS2 can be applied easily with the 1 1/3-quart M11 decontaminating apparatus, a broom, or a swab. One application of DS2 should be applied to the contaminated surface and, after 30 minutes, flushed with water.

WARNING: DO NOT USE DS2 FOR PERSONNEL DECONTAMINATION. DO NOT MIX WITH STB BECAUSE A FIRE MAY RESULT. DS2 IS FLAMMABLE. Avoid inhalation of vapors or contact of solution with the skin or eyes. Wear protective mask when using DS2.

c. Water or steam. It removes dirt and grease containing chemical agents or radioactive material. Hot soapy water destroys G-agents and physically removes other chemical and radiological contamination. Water or steam is applied under high pressure; action of hot water is speeded by using soap or other detergent.

WARNING: Water and condensed steam used to remove contamination should be drained into a sump and properly marked. If necessary to drain into a stream, friendly units downstream must be notified.

d. Hot air. It evaporates liquid chemical contaminants. Hot air is used in special situations, such as decontamination of delicate instruments contaminated with liquid agents or decontamination of aircraft cabins by engine heaters.

CAUTION: Temperature and air pressures used should be safe for particular equipment involved. Blown air will itself be contaminated by the chemicals it removes.

e. Weathering. Exposure of chemically contaminated equipment to the sun, air, and rain will decontaminate the equipment if sufficient time is allowed.

3. Chemical Decontamination of Unit Equipment. Unit equipment used by individuals is decontaminated by individuals as soon after contamination as the situation permits, as described below.

a. Vehicles. Vehicles that are lightly contaminated (pinhead-size spots at least one-fourth inch apart), as determined by chemical agent detector paper, may be decontaminated by airing. Each tactical vehicle is authorized one M11 portable decontaminating apparatus that contains 1 1/3 quarts of decontaminating agent DS2. It is used to decontaminate parts of the vehicle that must be touched during vehicle operation, such as controls.

(1) If the driver of the vehicle realizes that the vehicle is contaminated, he and other occupants mask and continue their mission until the situation permits decontamination outside the contaminated area.

(2) The vehicle is decontaminated with DS2, soapy water, solvents, or slurry. The M11 decontaminating apparatus is not intended for decontamination of the entire vehicle; one filling of DS2 is sufficient for emergency decontamination of the operator controls. The apparatus is used by tank crews and armored personnel carrier drivers to decontaminate those parts of the vehicle that will be touched by personnel during the mission; for example, areas touched when entering or leaving the vehicle. If sufficient DS2 is not available, gasoline, mud, rags, or any other expedient may be used. (These expedients do not neutralize the hazard. They just remove it.) Contaminated wood surfaces and tires are decontaminated with slurry.

b. Crew-served weapons. Crew-served weapons are decontaminated by using the methods described in a above. If necessary, the bore can be decontaminated by using cleaning solvent or hot soapy water. Ammunition is decontaminated with DS2 solution, wiped with gasoline-soaked rags, and then dried. If DS2 is not available, ammunition may be washed with cool soapy water, rinsed, and then dried thoroughly. Ammunition corroded from contamination is disposed of, particularly if the brass parts cannot be cleaned. Dry STB (bleach) must not be used on ammunition contaminated with mustard-type blister agents because when mixed they may ignite and start a fire. After decontamination, weapons are disassembled, washed, rinsed, dried, and oiled to prevent corrosion.

c. Optical instruments. Optical instruments are decontaminated by blotting with rags, wiping with an organic solvent (lens-cleaning solvent only is used for the lens), and then allowing them to air. If available, hot air is used to decontaminate most optical instruments.

d. Communication and radar equipment. Communication equipment is decontaminated by using hot air, if available. The next best method is by airing or weathering. The metal parts of field telephones and radios are decontaminated with DS2 and then wiped with rags. Heat-producing equipment such as electrical devices that contain tubes normally is decontaminated by the heat given off during operation.

4. Radiological Decontamination of Unit Equipment. The three methods of radiological decontamination are aging, sealing, and removing. The method most desirable for decontamination of vehicles and equipment is aging. This method can be used only when there is not an immediate need for the vehicle and the contaminant is not too long-lived. Brush loose, dry contamination from the vehicle before starting the aging process. If the vehicle is required for immediate use, brush loose contamination from the surface and clean the vehicle by

washing or scrubbing with steam or water and detergents. More extreme procedures include the removal of the protective finish with organic solvents and solutions or strong caustic solutions. These solvents and solutions should not be allowed to come in contact with rubber articles. Special attention should be paid to areas near the driver and to the controls.

REFERENCES:

FM 21-40, NBC Defense

TM 3-220, Chemical, Biological, and Radiological (CBR) Decontamination, C1, 2, Nov 67 (chap 1, pages 5-8, para 9; chap 2, pages 23-31, para 24; app B)

031-503-4116

SUPERVISE USE OF UNIT RADIAC EQUIPMENT

CONDITIONS:

In a simulated NBC environment, given radiacmeters, AN/PDR-27, IM-174 or IM-174A/PD, IM-93 or IM-93A/UD, unit survey and monitoring team, and a requirement to begin radiological monitoring.

STANDARDS:

1. Insure the selection of the correct radiacmeter for the mission.
2. Conduct a ground survey IAW performance measures below.

PERFORMANCE MEASURES:

1. Instruments (fig. 1).

a. The IM-174/PD and IM-174A/PD are used for area monitoring and survey. They measure gamma radiation in units from 1 to 500 rad/hr. They are dose-rate instruments.

b. The AN/PDR-27 () is used to monitor personnel, food and equipment. It will measure gamma radiation and detect beta. It is a dose-rate instrument.

c. The IM-93 ()/UD is used to measure total radiation dosages received. It measures gamma radiation up to a total dose of 600 rads. It is a total dose instrument.

2. Missions.

a. Monitoring (does not divert personnel from regular duties).

(1) Periodic--routinely conducted during nuclear warfare at a designated point at least once each hour.

(2) Continuous--initiated when periodic monitoring indicates above 1 rad/hr; when a fallout warning is received; when moving; when a nuclear burst is observed; on order.

b. Survey—a directed effort to determine the degree and extent of nuclear radiation. Takes personnel away from their basic mission.

3. Tactical Dosimetry. The tactical dosimeters are read at least once daily. The difference between the previous reading and the current reading is obtained for each dosimeter. These values are averaged, rounded off to the nearest 10 rad, and reported.

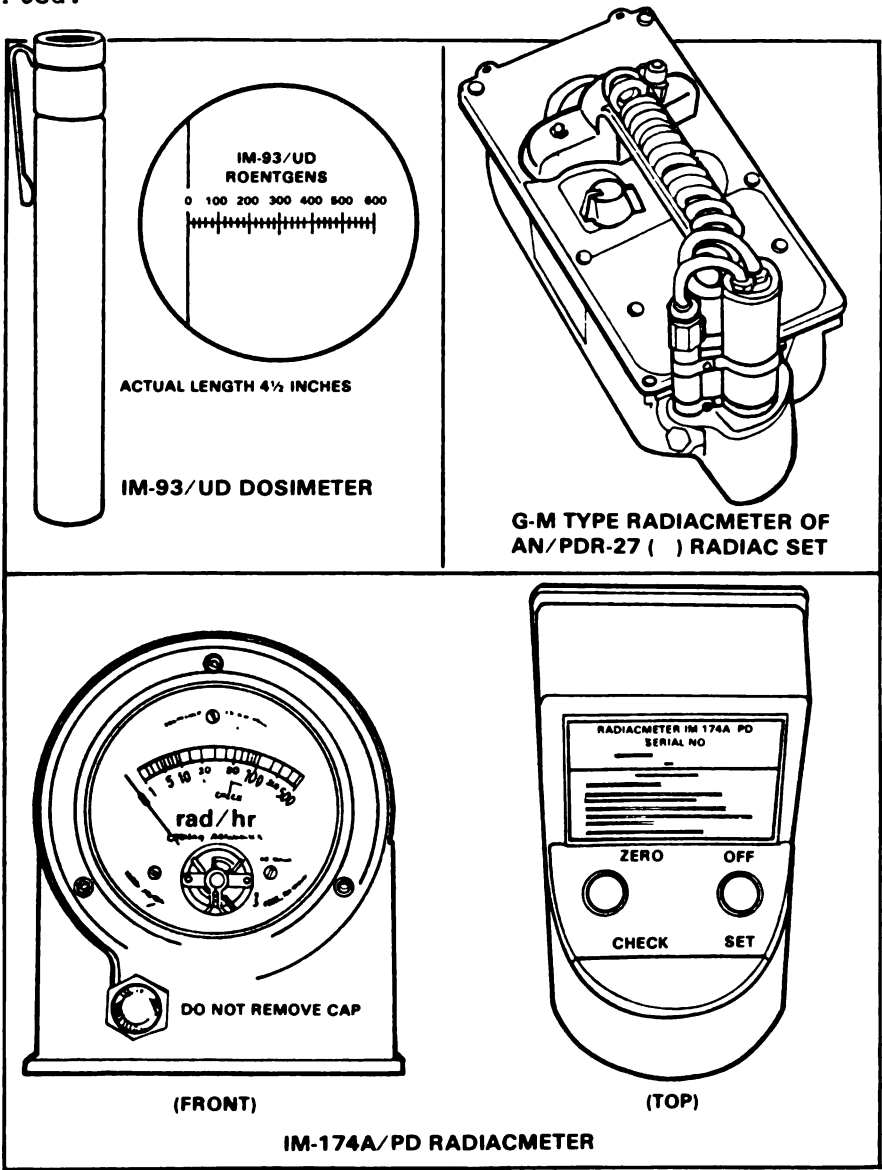


Figure 1. Radiac instruments.

4. Radiological Surveys. Radiological survey is the directed effort to determine the extent and dose rates of radiation in a specified area. There are two types of survey:

a. Air—which provides the most rapid means of collecting data and exposes the least number of personnel to the least amount of radiation.

b. Ground—which takes longer, exposes more personnel to more radiation, but is independent of weather conditions, can be conducted at night, and provides more accurate data.

c. There are three types of ground surveys:

(1) Point—measurements are taken only at preselected points in a given area.

(2) Route—measurements are taken at regular intervals over a predetermined route through a given area.

(3) Preselected dose-rate—a predetermined route is followed and locations are plotted where a given preselected dose rate is observed. Of these, the route method will be the one most often used.

d. Surveys are performed by one or more radiological survey parties and a control party. A ground survey party includes a monitor, who operates a dose-rate meter and records all survey data, and an assistant, who may be a driver or radio operator or both. Additional personnel may be included in a survey party for security or other reasons. The control party directs the survey, collects the data reported, and assembles the data into a usable form. The control party and survey parties are usually organized and equipped with unit resources.

e. As a rule, company-size units organize and train at least two survey parties (primary and alternate) for each dose-rate survey meter; only one party will be equipped with a survey meter. Survey parties are organized to use organic vehicles that provide maximum protection against nuclear radiation; for example, armored vehicles for mechanized units. Air-ground correlation factors, and correlation factors for vehicles and structures are given in FM 3-12.

5. Operation Exposure Guidance (OEG). OEG is normally determined by a higher level command and gives a unit the means to determine how much radiation it can be exposed to with little or no risk. It is calculated from the unit's radiation history. That is, it is based upon how much total radiation the unit has been exposed to so far. For example, the total does a unit may

receive might be 150 rads. If the unit radiation history says that the unit has already been exposed to 75 rads, then it can be exposed to only 75 rads more. It is very difficult to predict whether the personnel on a survey will receive no more than 75 rads. But they must have a way to determine whether they are receiving too much radiation. They can if they know the TURN BACK DOSE RATE (R_{tb}) and the TURN BACK DOSE (D_{tb}).

a. The TURN BACK DOSE RATE (R_{tb}) is figured from the following formula:

$$R_{tb} = \frac{2 \times \text{OEG} \times \text{speed}}{\text{distance}}$$

The commander has informed you that, due to the previous radiation exposure of the unit, the operation exposure guidance (OEG) is set at 20 rads. The survey is to be conducted at a speed of 10 mph. The distance to be covered by the survey is 5 miles. Using the formula:

$$R_{tb} = \frac{2 \times 20 \text{ rads (OEG)} \times 10 \text{ mph}}{5 \text{ miles}} = 80 \text{ rads/hr}$$

The TURN BACK DOSE RATE then is 80 rads/hrs. .

When a survey party encounters the TURN BACK DOSE RATE, unless instructed otherwise, it will leave the survey area immediately by the same route it came.

b. TURN BACK DOSE (D_{tb}) is figured from the following formula:

$$D_{tb} = \frac{\text{OEG}}{2}$$

Using the OEG (20 rads) given by the commander, we find that the TURN BACK DOSE (D_{tb}) = $\frac{20 \text{ rads (OEG)}}{2} = 10 \text{ rads}$.

When the survey party encounters this dose, and the dose rate is increasing as they progress, unless otherwise instructed they will immediately leave the survey area by the route on which they came.

6. To supervise the conduct of a survey mission:

- a. Determine the area to be surveyed.
- b. Organize the survey and control as required.

c. Plan for the type of survey to be conducted; i.e., point, route, or predetermined dose rate.

NOTE: Planning the details of the survey should be accomplished with the NBC NCO.

d. Obtain OEG and calculate TURN BACK DOSE RATE (R_{tb}) and TURN BACK DOSE (D_{tb}).

e. Secure adequate transportation. Armored personnel carriers are best suited for ground survey since they afford the best protection for survey personnel.

f. Coordinate with all adjacent and subordinate units in the area of operation.

g. Become familiar with the individual exposure history of all survey personnel.

h. Brief the survey and control parties.

i. Conduct the mission.

REFERENCES:

FM 21-40, NBC Defense

051-192-1501

NEUTRALIZE ENEMY MINES

CONDITIONS:

Given a field location with varied terrain, a (dummy) mine(s), 50-meter rope with grapnel, 1 pound of C4 or TNT, four blasting caps, 10 meters of time fuse, and incendiary material. Situation requires you to help clear mine(s).

STANDARDS:

The mine(s) will be detonated utilizing the following methods:

1. Hand-placed charges when access to the mine(s) can be gained.
2. Grapnels when engaging tripwire or tilt rod mines.
3. Vegetation fires only as a last resort to breach a minefield and when explosives and grapnels are not available.

PERFORMANCE MEASURES:

1. Mine Destruction, Removal, and Neutralization.
 - a. Before a mine is destroyed or removed, traffic will be stopped. All personnel will be cleared to a safe distance of 300 meters.
 - b. With standard demolition procedures as referenced in FM 5-25, mines and boobytraps can be destroyed in place. A 1-pound block of TNT or 1-pound block of plastic explosive (C4) placed on top is enough to detonate a mine.
 - c. If it is decided that the mine must be removed, specially qualified soldiers should be tasked to remove it. This may be the case when the mine may damage a road, bridge, culvert, or civil structure to excess. Mines of special intelligence value may have to be removed for study instead of being destroyed in place.
 - d. If EOD personnel are not available, the mine may be removed by grappling hooks (grapnel) and rope from a protected position.

e. If the mine is detonated, check the crater for other mines. When the crater is clear, measure its size to learn the charge weight of the mine.

f. Safety.

(1) Flak jackets and steel helmets will be worn, with the exception of mine detector operators.

(2) Only one person will be allowed at the location of a suspected mine.

(3) All mines and explosive devices will be assumed to be equipped with antihandling devices until proven otherwise.

(4) All troops in the area will be cautioned not to run and to move only in areas previously cleared.

g. Personnel in a minefield will:

(1) Not divide responsibility (senior man is responsible for all actions).

(2) Not take chances.

2. Use of Grapnels (fig. 1). This is the safest method of destroying tripwire or tilt rod fuze mines.

a. Tripwire and tilt rod fuze mines can be detonated by throwing a grapnel with rope attached and pulling it back to detonate the mines.

b. A 50-meter rope is attached to the grapnel for handthrowing; throw grapnels and rope past mine.

c. Cover should be sought before grapnel and rope touch the ground in the event that their impact may detonate the mine.

d. Pull grapnel back toward you while remaining in a protected position until the mine is detonated.

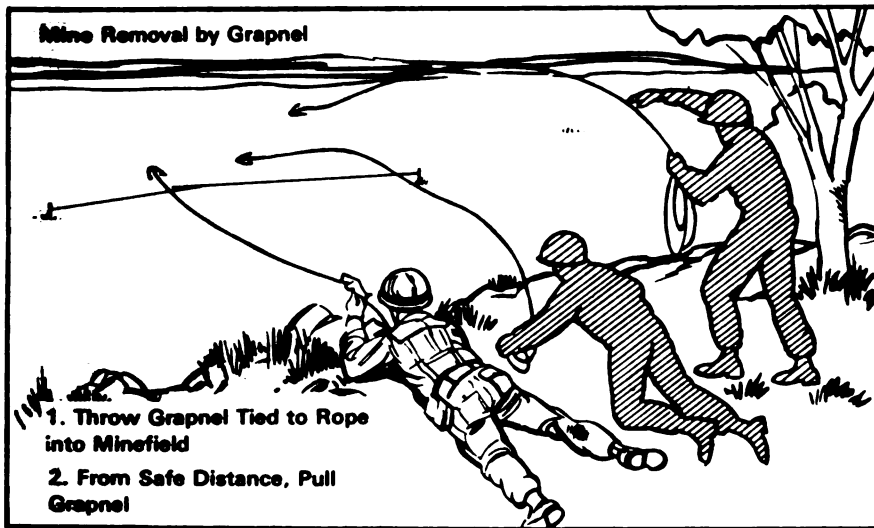


Figure 1

NOTE: If the mine does not detonate after pulling it from its emplacement, wait 5 minutes before leaving cover and approaching the mine. The mine should then be destroyed by hand-placed charges.

3. Hand-Placed Charges (fig. 2).

a. Procedures for priming demolitions for detonation are contained in tasks:

- (1) Prime a demolition block nonelectrically.
- (2) Prime a demolition block electrically.
- (3) And in FM 5-25, chap 2.

b. A 1-pound charge of TNT, or C4, placed alongside or on top is sufficient to detonate one mine.

c. Prepare charge and place alongside or on top of mine.

d. Light time fuse and move to safe position.

NOTE: Insure time fuse length will give you adequate time to return to protected position.



Figure 2

4. Use of rope (fig. 3).

a. Prepare an A-frame and position it near the mine to be detonated.

b. Place a rope through the A-frame.

c. Extend the rope to a cleared, covered position, at least 50 meters from the mine.

d. Uncover only enough of the mine to expose a suitable part to which the end of the rope or a grapnel may be attached.

e. Tie the end of the rope to a hook or projection on the mine. If there is no projection, engage a hook of a grapnel under the bottom side of the mine opposite the direction of pull.

NOTE: Use care not to disturb the mine when uncovering and attaching grapnel or rope to the mine.

f. Move to the covered position and pull the mine from the hole.

NOTE: If no covered position is available, use an armored vehicle (if available) or lie prone behind a stump, tree, or log or get in a ditch before attempting to pull the mine from the hole.

g. If the mine does not detonate, wait 5 minutes before

leaving cover and approaching the mine. Then check the hole for additional mines.

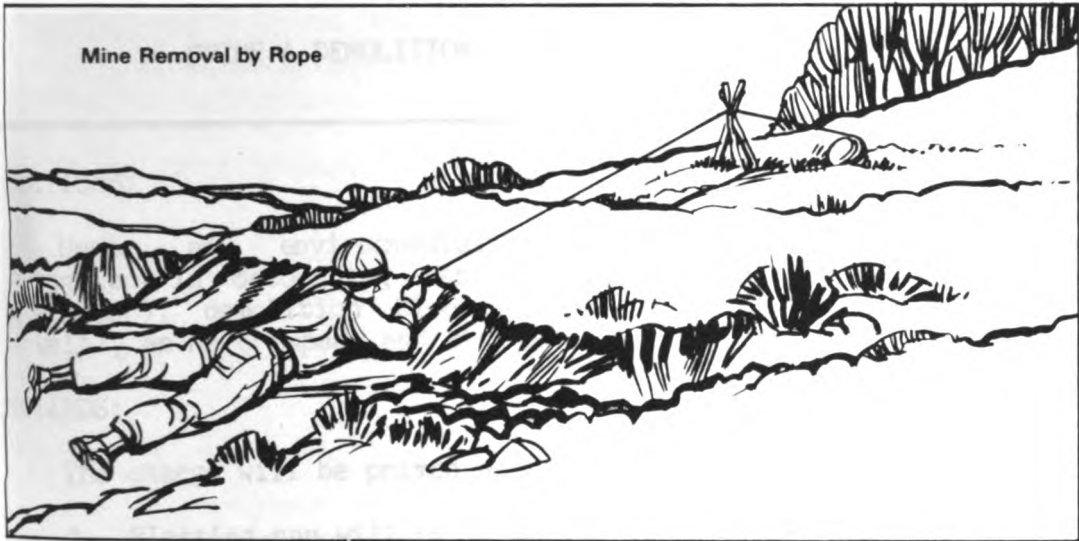


Figure 3

5. Detonate by Burning. Using incendiary material, set fire to the vegetation surrounding a mine (field) from the upwind side.

NOTE: This method is the least recommended method because it may not destroy all mines, and those remaining must be located and marked; furthermore, these mines will be highly sensitive.

6. Use of Weapons Fired Against Mines. Engage mine from a protected position.

REFERENCES:

- FM 5-25, Explosives and Demolitions, Feb 71 (chap 2, page 2-1)
- FM 20-32, Mine/Countermining Operations at Company Level, Nov 76 (chap 18, page 99, para 18-8 and 18-10)

051-19301003

PRIME A DEMOLITION BLOCK NONELECTRICALLY

CONDITIONS:

Under any environmental conditions, with a completed nonelectric detonating assembly (with and without a priming adapter), demolition blocks (with and without threaded cap well), an M2 crimper, and string.

STANDARDS:

The charge will be primed as follows:

1. Blasting cap will be inspected for foreign material.
2. Blasting cap/time fuse will be securely fastened to the demolition block.
3. The charge will detonate when fired.

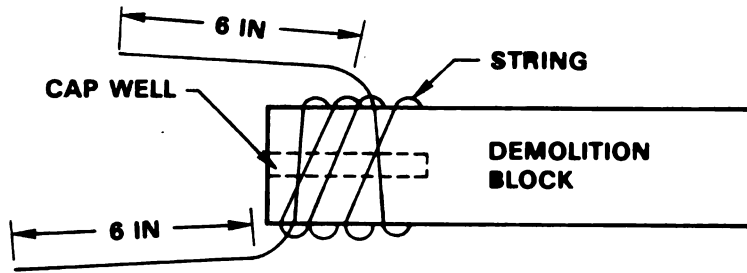
PERFORMANCE MEASURES:

1. Prime a demolition block with a threaded cap well and priming adapter available as follows:

- a. Inspect cap well for foreign material.
- b. Insert cap into cap well.
- c. Screw the adapter into the cap well.

2. Prime a demolition block with a threaded cap well and no priming adapter available as follows:

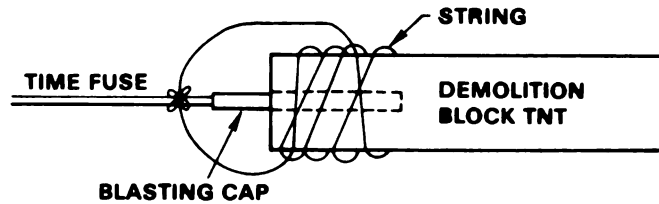
- a. Inspect cap well for foreign material.
- b. Wrap a string tightly around the demolition block and tie it securely, leaving about 6 inches of loose string on each end after making the tie.



c. Insert a blasting cap with fuse attached into the cap well.

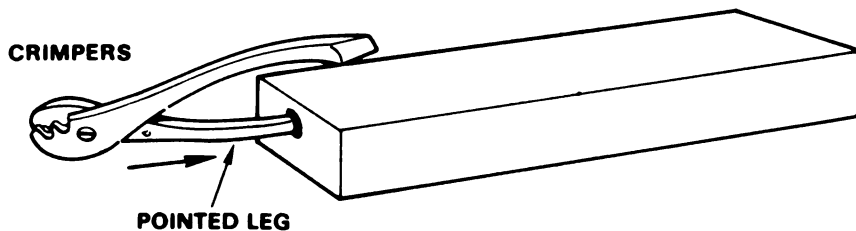
d. Tie the loose string around the fuse to prevent the blasting cap from being separated from the block.

NOTE: Do not tie the string so tight that powder train is broken in the fuse.

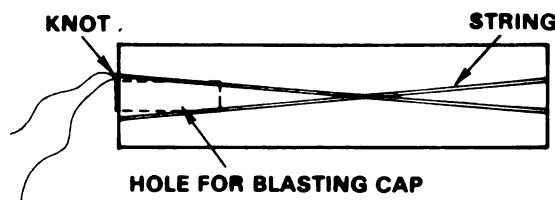


3. Prime a demolition block without threaded cap well as follows:

a. Make a hole in the end of the demolition block with the pointed hand on the M2 crimpers large enough to contain the blasting cap.



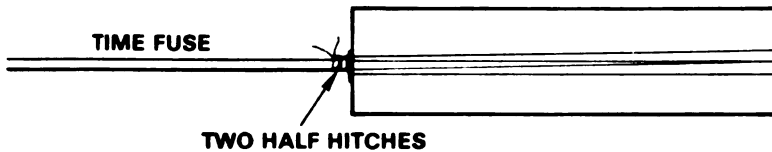
b. Using string, wrap several turns around the block and tie any knot. Position the tie so it will be at the top of the hole when the fused cap is inserted.



c. Insert fused cap into hole.

NOTE: Never try to force a cap into an expedient cap well that is too small to admit it easily. Remove cap and enlarge hole.

d. Tie string around the time fuse at the top of hole with two half hitches.



REFERENCE:

FM 5-25, Explosives and Demolitions, Feb 71 (chap 2, page 2-17, para 2-17)

051-193-1005

PRIME DEMOLITION BLOCK ELECTRICALLY

CONDITIONS:

Under any environmental conditions (except for electrical storms, in the vicinity of FM radio transmissions, or other static electricity outputs that could detonate electric blasting caps), with firing wire, tested electric blasting caps, priming adapter, demolition blocks (with and without threaded cap well), and M2 crimper.

STANDARDS:

The charge will be primed IAW performance measures so that it detonates when fired.

PERFORMANCE MEASURES:

1. To prime a demolition block with a threaded cap well and priming adapter available (fig. 1).
 - a. Inspect cap well for foreign material.
 - b. Untwist the free ends of the lead wire and fasten them to the firing wire.
 - c. Pass the lead wires through the slot of the adapter and pull the cap into place in the adapter.
 - d. Insert the cap into the cap well of the block and screw the adapter into place.

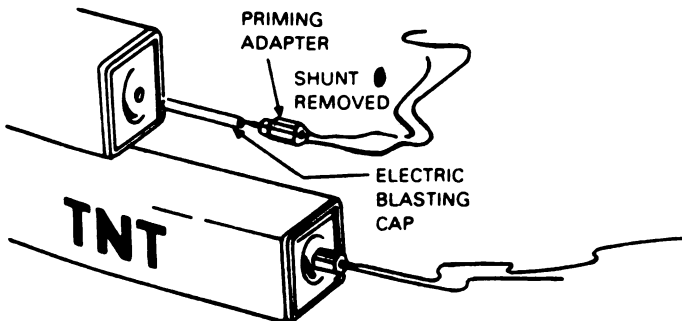


Figure 1

2. To prime a demolition block with a threaded cap well and no priming adapter available (fig. 2).

- a. Inspect cap well for foreign material.
- b. Untwist the free ends of the lead wire and fasten them to the firing wire.
- c. Insert the electric cap into the cap well and tie the lead wires around the block with two half hitches or a girth hitch. Allow some slack in the wires between the blasting cap and the tie to prevent any pull on the blasting cap.

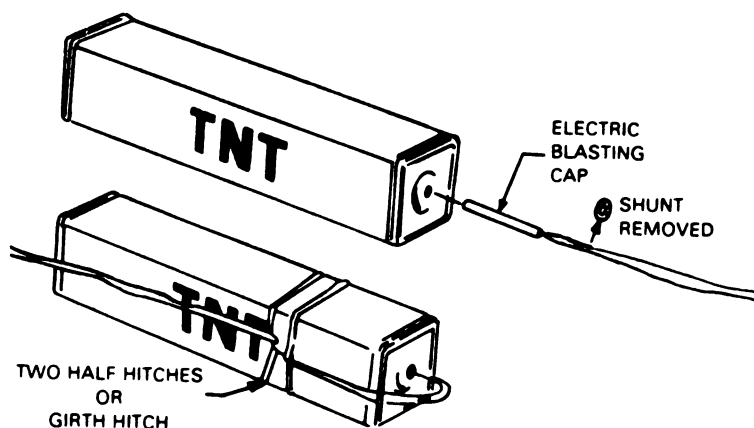
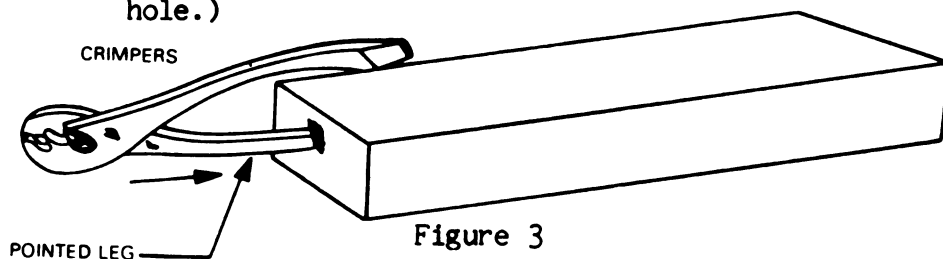


Figure 2

3. To prime a demolition block without a threaded cap well (fig. 3).

- a. Make a hole in the end of the demolition block with a pointed nonsparking instrument or the pointed handle on the M2 crimpers large enough to contain the blasting cap.
- b. Follow steps in performance measure 2.

NOTE: Never try to force a cap into an expedient cap well that is too small to admit it easily. Remove cap and enlarge hole.)



REFERENCES:

FM 5-25, Explosives and Demolitions, Feb 71 (chap 2, page 2-19, para 2-18b)

TEC Lesson 645-093-7321-F, Prepare Electric Firing System

051-193-1501

PREPARE AND DETONATE EXPLOSIVES USING DETONATING CORD

CONDITIONS:

Under any environmental conditions, with designated explosives, detonating cord, and appropriate tools and equipment.

STANDARDS:

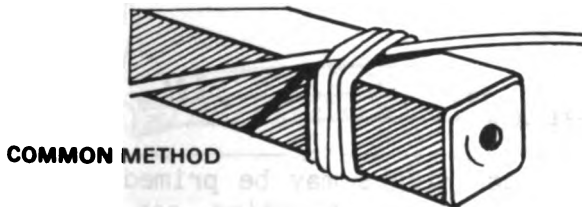
The charge will be primed IAW the performance measures so that it detonates when fired.

PERFORMANCE MEASURES:

1. To prime demolition blocks:

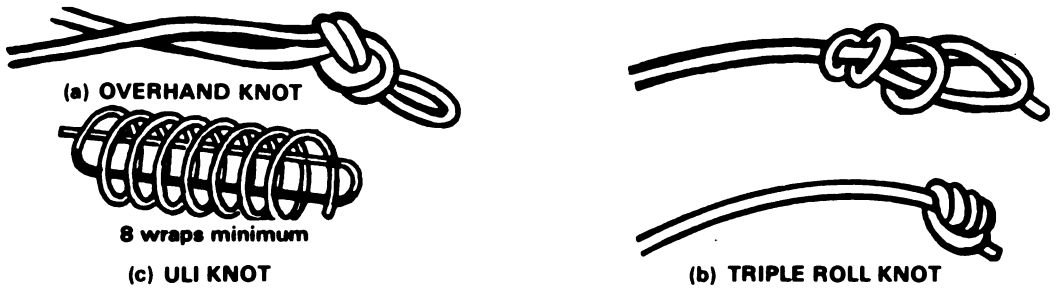
a. The method which offers the greatest assurance of detonation is to fix a nonelectric blasting cap to the end of the detonating cord and place it in the demolition block similar to nonelectric priming methods.

b. The common method is to lay one end of a 4-foot length of detonating cord at an angle across the explosive. The running end is then given three wraps around the block and the end laid at an angle. On the fourth wrap, slip the running end under all wraps parallel to the other end and draw tight.

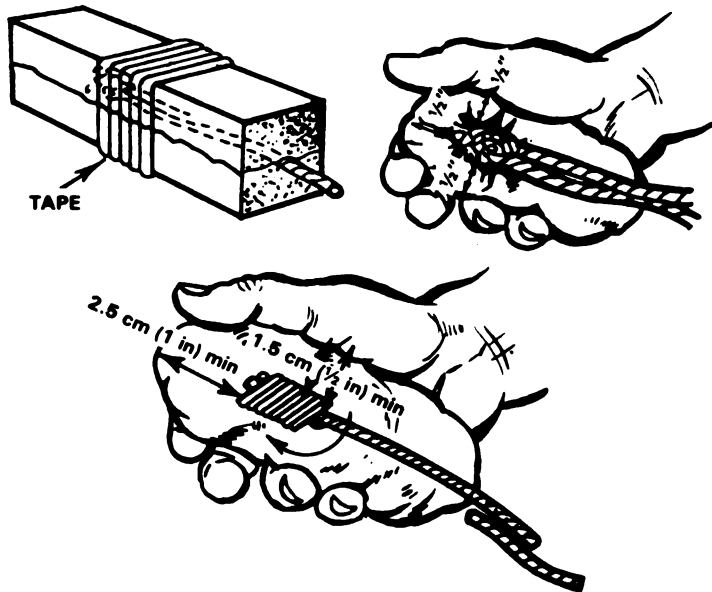


2. To prime plastic explosives:

a. When priming explosives with detonating cord, form either the (a) overhand, (b) triple roll, or (c) Uli knot.



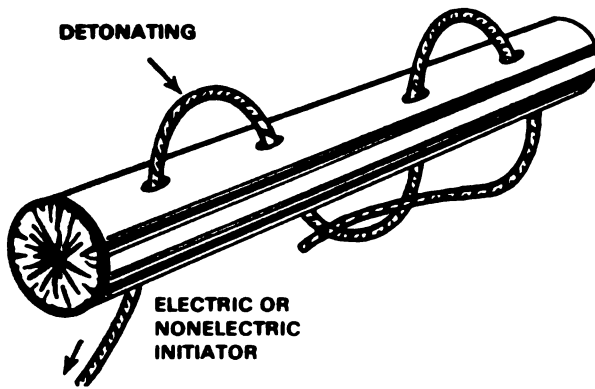
b. Then insert the knot into a block of explosive or a molded piece of explosive as shown. In either case, insure that there is at least one-half inch of explosive on all sides of the knot. (When using the Uli knot, a minimum of 1 inch of explosive must be on the end of the knot.)



3. Prime Dynamite.

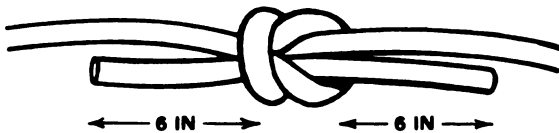
a. Dynamite cartridges may be primed with detonating cord by attaching a nonelectric blasting cap to the end of the detonating cord and following any of the methods for nonelectric priming.

b. Dynamite may also be primed by lacing the detonating cord through it. This is used chiefly in boreholes, ditching, or removal of stumps. Punch four equally spaced holes through the dynamite cartridge and lace the detonating cord through them as shown.

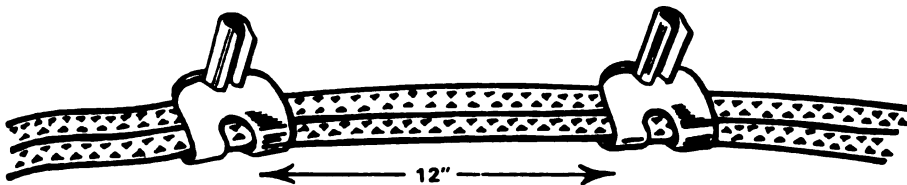


4. Splicing the Ends of Detonating Cord.

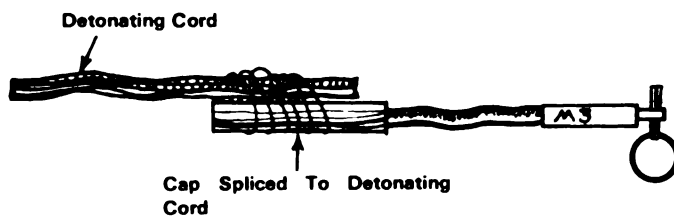
a. A square knot pulled tight is used to splice the ends of detonating cord. At least a 6-inch length should be left free at both sides of the knot. When fabric is used to cover the detonating cord, the fabric must not be removed.



b. Ends of detonating cord are spliced by overlapping them about 12 inches, using two clips, one at each end of the overlap, and bending the tongues of the clips firmly over both strands. The connection is made secure by bending the trough end of the clip back over the tongue.



5. To attach an electric or nonelectric (initiation) detonating assembly, splice the cap of either detonating assembly to the detonating cord using an M1 detonating cord slip, string, or adhesive tape.



REFERENCES:

FM 5-25, Explosives and Demolitions, Feb 71 (chap 2, pages 2-11 thru 2-12, para 2-10 and 2-12)

TEC Lesson 645-093-7322-F, Prepare Detonating Cord Firing System

051-193-1502

CLEAR DEMOLITION MISFIRES (ABOVE GROUND)

CONDITIONS:

Given a 1-pound electric or nonelectric primed charge; an electric or nonelectric 1- or 2-pound charge that has not been tamped, located above ground; blasting machine; galvanometer; and a demolition pit.

NOTE: "Tamped" is defined as: material that has been packed around a charge to retain its explosive force.

STANDARDS:

Misfires will be cleared in accordance with applicable performance measures below to prevent premature detonation of the misfired demolition charge.

PERFORMANCE MEASURES:

1. To clear a nonelectric misfire:
 - a. Wait 30 minutes before investigating the cause of the misfire.
 - b. Place a 1-pound charge as close to the misfire as possible without disturbing it.
 - c. For a nonelectrically primed charge, light the time fuse and move to a safe area.
2. To clear an electrical misfire:
 - a. Check the firing wire connection to the blasting machine or power-source terminals to be sure that the contacts are good.
 - b. Make two or three more attempts to fire the circuits.
 - c. Change the blasting machine or power source and attempt to fire again.
 - d. Disconnect the firing wires (shunt the wires to avoid

possible static electric detonation) and investigate immediately.

e. Check the entire circuit, including the firing wire, for breaks and short circuits.

f. Place a new 1-pound electrically primed charge as close to the misfire as possible.

g. Move back to the firing position and fire the charge.

REFERENCE:

FM 5-25, Explosives and Demolitions, Feb 71 (chap 2, sec I & II, page 2-1)

051-202-1001

**CAMOUFLAGE/CONCEAL SELF
AND INDIVIDUAL EQUIPMENT**

CONDITIONS:

During daylight, given camouflage paint stick(s), individual weapon, load-bearing equipment (LBE), helmet complete with accessories, a snowsuit (white sheet or mattress cover) if appropriate, burlap garnishing strips or cloth strips, charcoal or burnt cloth residue, and mud (if appropriate to area).

STANDARDS:

Within 15 minutes, shade shiny areas of exposed skin with dark color and shadow areas with light color. Clothing, LBE, and weapon outlines will be altered and irregular patterns added to blend with the predominant color of the background in the area.

PERFORMANCE MEASURES:

1. Guide for Skin Camouflage (fig. 1). Exposed skin reflects light and attracts the enemy's attention. Even very dark skin will reflect light because of its natural oil. Camouflage face paint sticks are issued in three standard two-tone sticks as follows:

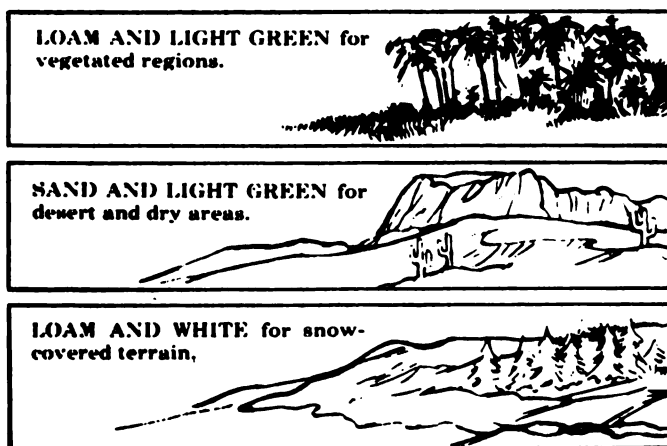


Figure 1

2. To camouflage exposed skin (fig. 2):

- a. Paint the shiny areas (forehead, cheekbones, nose, and chin) with a dark color.
- b. Paint the shadow areas (around the eyes, under the nose, and under the chin) with a light color.
- c. Paint the exposed skin on the back of your neck and hands with irregular patterns.
- d. When applying camouflage, use the buddy system--work with another man and check each other.



Figure 2

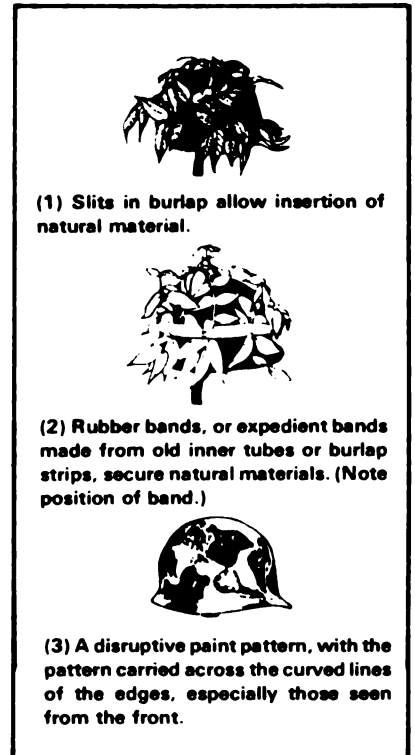


Figure 3

3. To camouflage the helmet (fig. 3).

- a. The outline of the helmet is one of the striking features of your equipment, and its curved shape can be easily identified by the enemy. You should attempt to break up the outline of your helmet. There are several ways of doing this. Figure 3 shows some examples.

b. Improvised helmet covers can be made of pieces of burlap, other cloth, or sandbags.

4. To camouflage your weapon (fig. 4).

a. One of the easiest ways to change the outline of your weapon is by wrapping it with burlap strips or strips of cloth dyed to match the background.

b. Pattern painting the weapon is also good. Shiny parts can be covered by cloth, paint, or mud.

c. Care must be taken when camouflaging a weapon not to cause interference in the sighting and firing of the weapon.

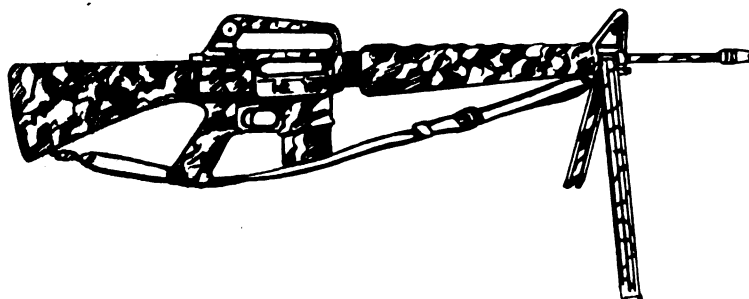


Figure 4

5. To camouflage your uniform:

a. Combat uniforms can be stained and dyed with a little imagination.

(1) You can make a uniform blend with the terrain by dyeing it or by attaching bow ties of colored burlap.

(2) A mixture of mud and grease or crankcase oil may be used to stain your uniform.

(3) When operating in snow-covered terrain, you can make a snowsuit from a sheet, mattress cover, or other white cloth.

b. The important thing is to make the clothing look less like a uniform and more like the terrain in which it is to be worn.

6. To blend with your surroundings (fig. 5): Blending is the use of camouflage materials on, over, and around an object so

that it appears to be part of the background. For example, a soldier can apply stick paint to exposed skin, and add burlap, paint, and live vegetation to his helmet, clothing, and LBE so that he will closely resemble or blend into the background.

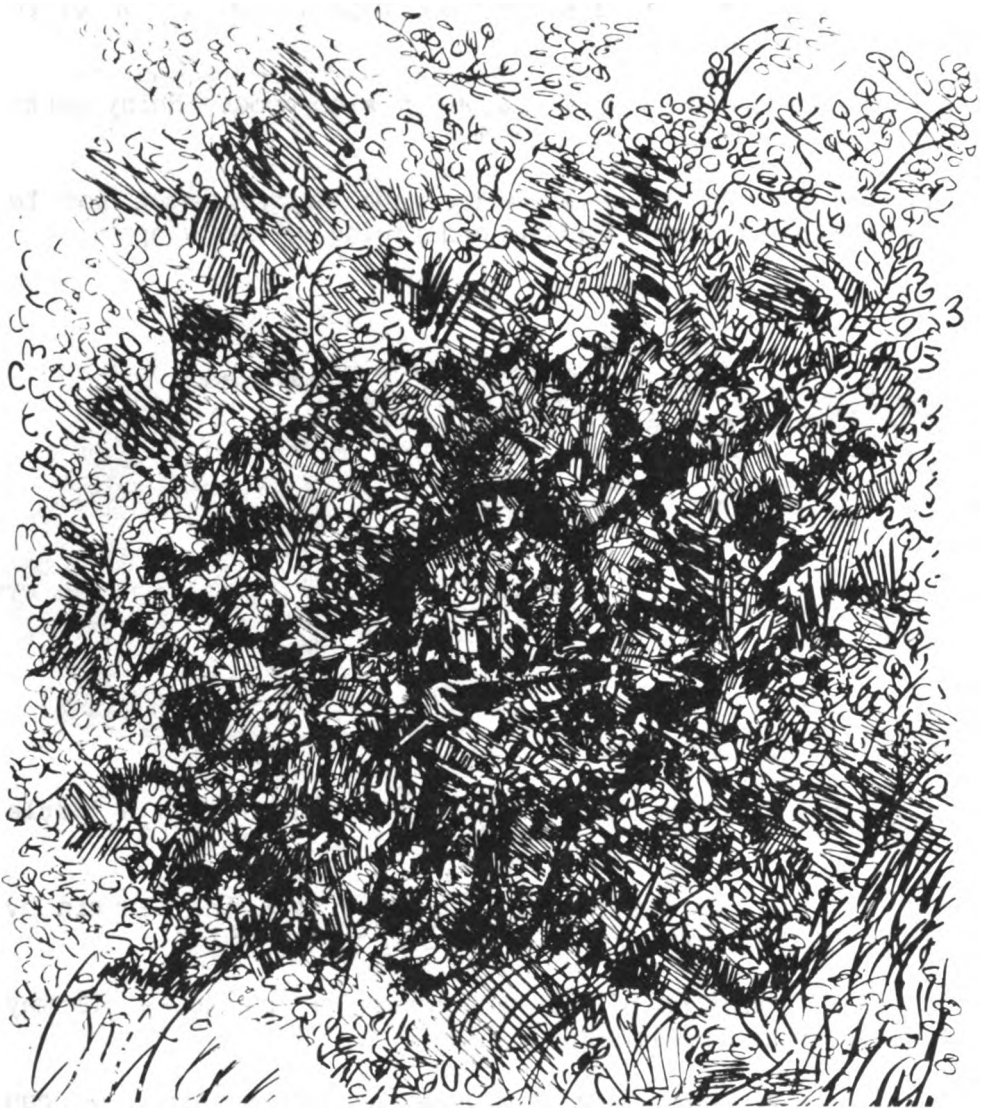


Figure 3

REFERENCES:

FM 5-20, Camouflage, May 68 (chap 4, pages 26 thru 30, para 11 thru 17)
TEC Lesson 937-061-0030-F, Cover, Camouflage, and Concealment, Part I

051-203-2509

CONSTRUCT A POINT DESIGNATION GRID

CONDITIONS:

You will be given aerial photographs, standard drafting equipment, metric measuring scale, and pencils.

STANDARDS:

Construct a grid accurate to within .01 cm.

PERFORMANCE MEASURES:

1. Orient the photograph so that the marginal information is in the normal reading position. (See fig. 1.)

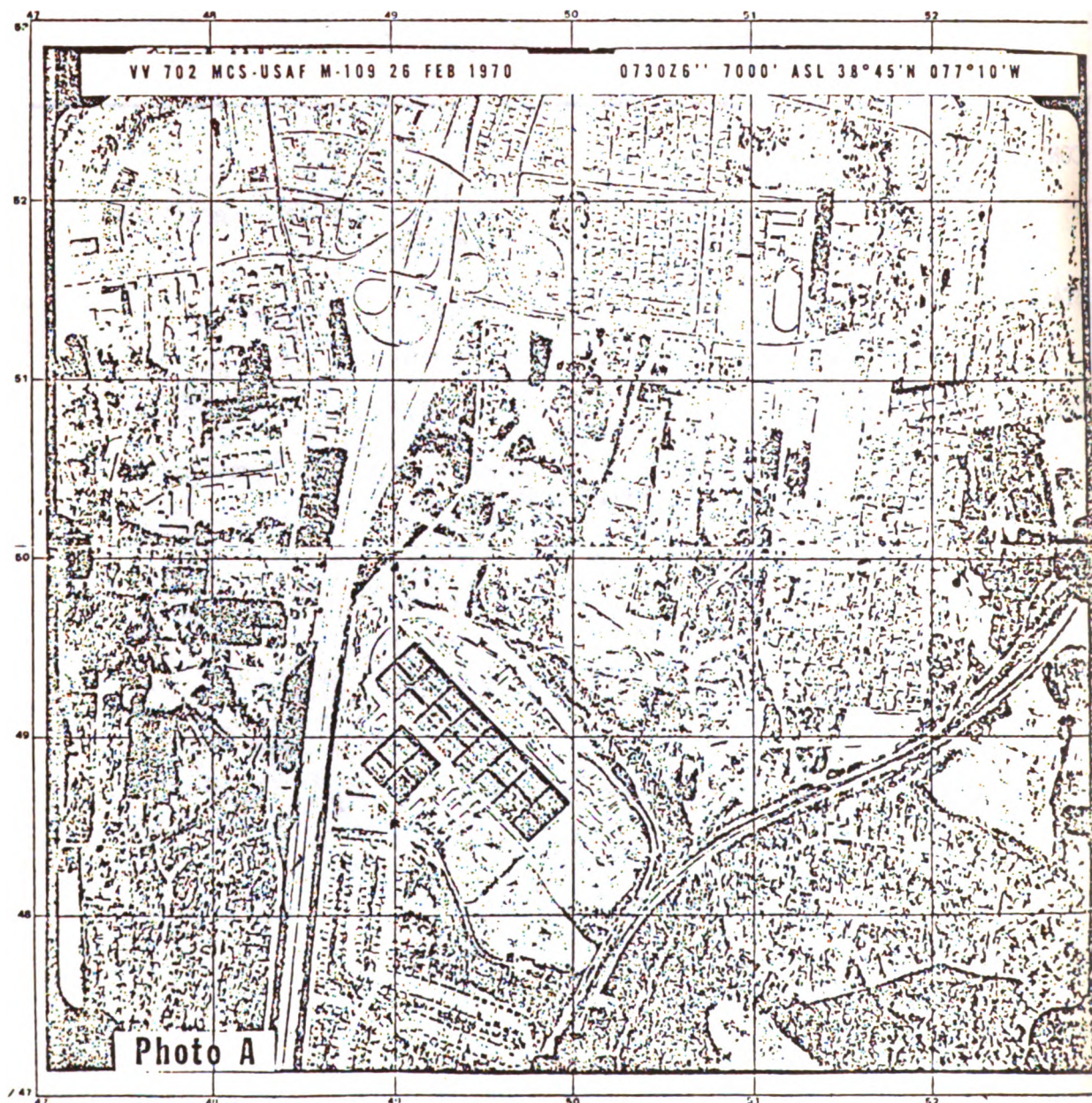


Figure 1

2. Using a straightedge, connect opposite fiducial marks (fig. 2).

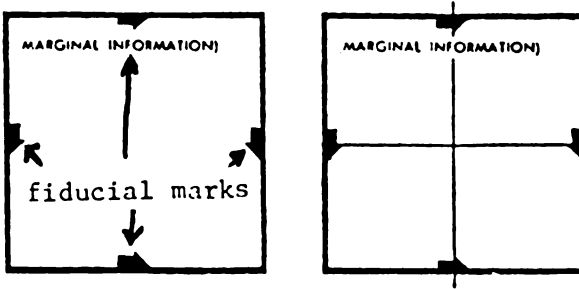


Figure 2

NOTE: If there are no fiducial marks on the photograph, determine the center of each side of the photograph and consider this to be the location of the fiducial marks.

3. Construct the vertical grid lines exactly 4 cm apart perpendicular to the horizontal centerline and parallel to the vertical centerline. Consider the vertical centerline to be a grid line and step off the measurements. Extend the grid beyond the margin of the photograph so that a grid line falls outside of the image area on either side of the photo (fig. 3).

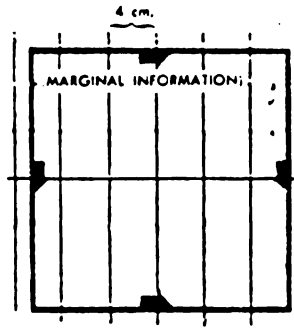


Figure 3

4. Construct the horizontal grid lines exactly 4 cm apart perpendicular to the vertical centerline and parallel to the horizontal centerline (fig. 4).

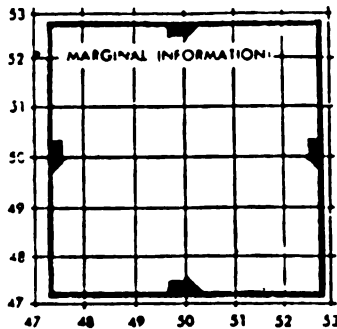


Figure 4

5. Label the point designation grid in the following manner (figs. 1 and 4).

a. Label the horizontal and vertical centerlines with the number 50.

b. Label the vertical grid lines so that they increase in value as you move to the right of the vertical centerline and decrease in value as you move to the left of the centerline.

c. Label the horizontal grid lines so that they increase in value as you move up from the horizontal centerline and decrease in value as you move down from the centerline.

REFERENCE:

FM 21-26, Map Reading, Jan 69 (chap 8, para 8-9)

051-203-2510

LOCATE A POINT ON AN AERIAL PHOTOGRAPH
USING POINT DESIGNATION GRID (PDG) COORDINATES

CONDITIONS:

You will be given aerial photographs containing a point designation grid, a coordinate scale, PDG coordinates of a feature, position, or target.

STANDARDS:

Locate/plot the feature, position, or target on an aerial photograph within .02 inches of its true position.

PERFORMANCE MEASURES:

1. Identify the mission number and exposure number of the photograph on which the feature is located and select the correct photo based upon this information.

Example: PDG 702MCS-M109-63 487514

Mission Number: M-109

Exposure Number: 63

2. Orient the photograph so that the marginal information is in the normal reading position (fig. 1).

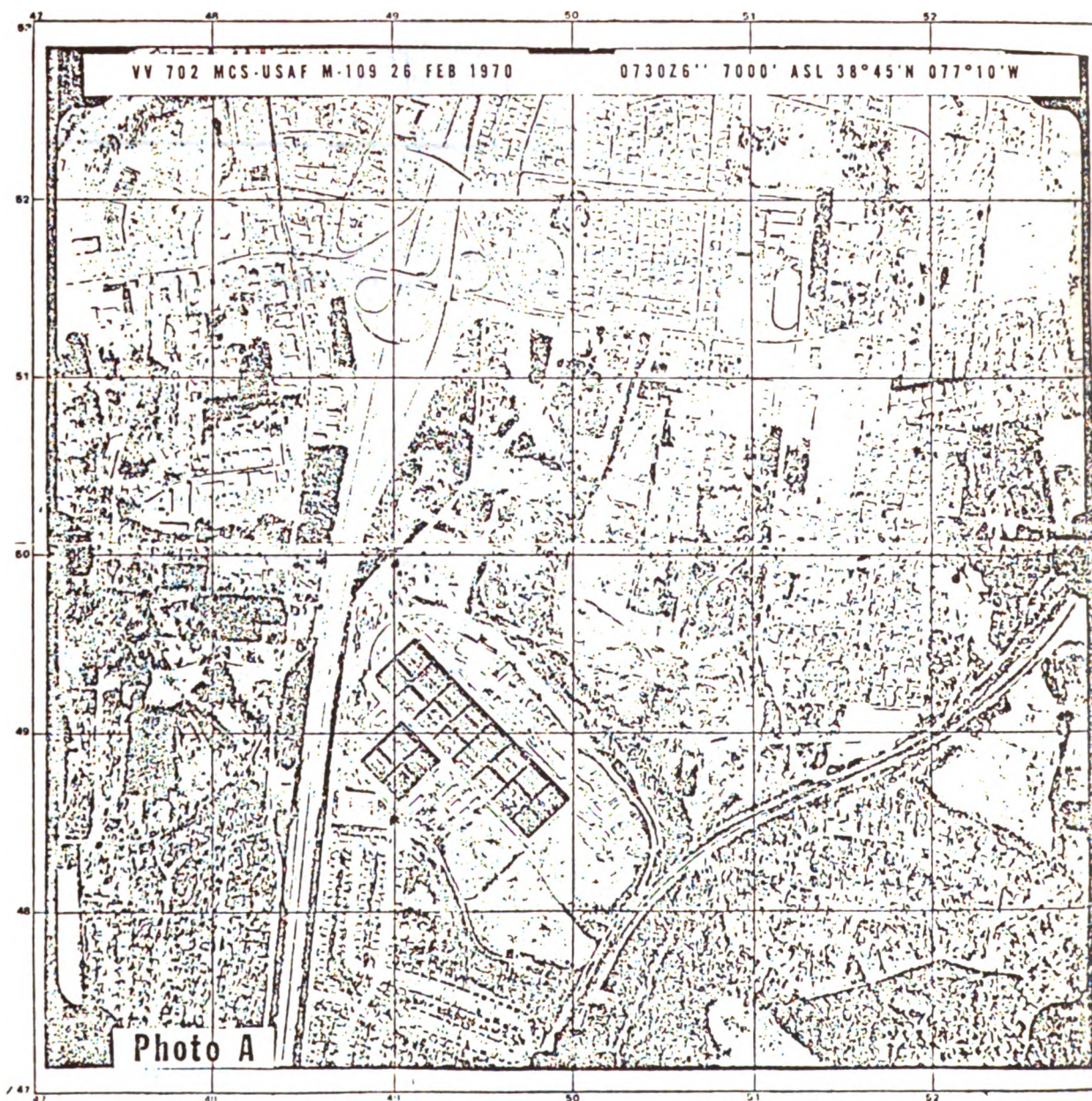


Figure 1

3. Locate the grid square in which the point is located. In the example given this would be grid square 4851.

NOTE: Read a PDG just as you would read a UTM (Universal Transverse Mercator) Grid--RIGHT and UP. A grid square is designated by the value of the intersecting lines in the lower left corner of the square.

4. Using the coordinate scale designated as 1/25000 (fig. 2), plot the remaining portion of the coordinate.

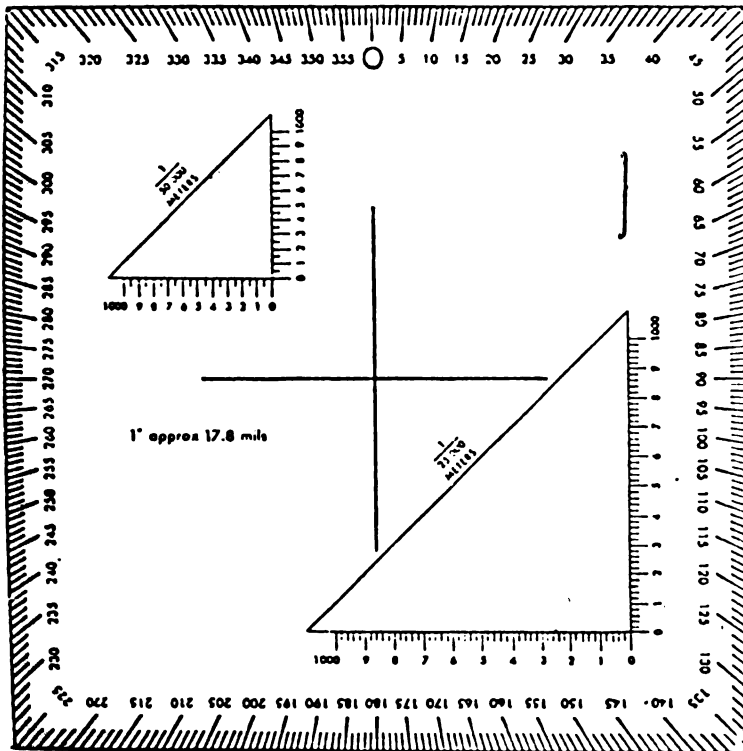


Figure 2

Example: 487514

NOTE: The point is plotted to the right of line 48, 7/10 of the distance between lines 48 and 49 and above line 51, 4/10 of the distance between lines 51 and 52 (fig. 3).

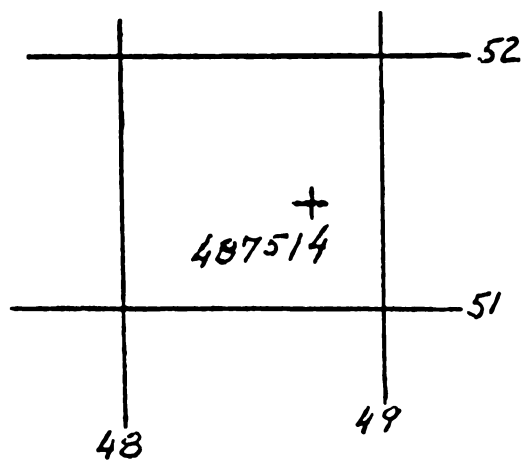


Figure 3

REFERENCE:

FM 21-26, Map Reading, Jan 69 (chap 8, para 809)

061-283-3031

DIRECT A CLOSE AIR SUPPORT (CAS) STRIKE

CONDITIONS:

You will be given binoculars, a map of the target area, the strike fighter call sign, mission number, ordnance load, target description, target location, enemy situation, friendly situation, any attack restrictions, fighter communication equipment, the radio frequency, and FM radio communication equipment. CAS strike has been requested and is en route. Forward air controller (FAC) is not available in battalion area.

STANDARDS:

1. Direct pilot(s) to the correct target.
2. Obtain desired effects on the target.

PERFORMANCE MEASURES:

1. Brief/tactical air control party/forward air controller - air (TACP/FAC-A) on the following:

- a. Target marking.
- b. Air defense artillery (ADA) suppression.
- c. Attack restriction.
- d. Friendly ADA considerations.

2. Mark target, if necessary (using artillery, mortar, tank fire, or smoke), 5-10 seconds before strike pilot approach to pullup point (PUP). The pullup point is where the pilot starts to climb or maneuver from a low-level approach to a sufficient height from which to attack. During this maneuver the pilot will identify the target.

3. Give pilot final adjustment from marking round (reference point) to target. This adjustment is given as a distance in meters and as cardinal direction from the marking round (reference point) to the target. Example: "From the base of the smoke your tgt is 300 meters northeast."

4. For follow-on aircraft, adjust from previous aircraft hits to target giving reference to cardinal headings. For example: From SLUF 1's bombs, "Shift southeast 200 meters."

5. Insure attack aircraft is lined up on proper target. If the pilot is not lined up on the proper target, abort the mission by contacting the pilot (through relay if necessary) and telling him to abort. Any words that communicate the abort directive are acceptable.

6. Give bomb damage assessment to FSE and Air Force point of contact.

REFERENCES:

FM 6-20, Fire Support in Combined Arms Operations, Sep 77 (app D)
TRADOC Training Text (TT) 6-20-7
FM 6-30, The Field Artillery Observer

061-283-6001

LOCATE A TARGET BY GRID COORDINATES

CONDITIONS:

You will be given binoculars if available, a compass, a pencil, and a 1:50,000-scale military map of the target area. You have identified a target. Your position is plotted on your map.

STANDARDS:

Determine the grid coordinates of the target within 250 meters of the actual coordinates.

Locate the target within 90 seconds after identification.

PERFORMANCE MEASURES:

1. Orient the map to the ground by map-terrain association. (See task #071-329-1012, Orient a Map to the Ground by Map-Terrain Association.)

2. Locate the target on the map by comparing terrain features on the ground near the target with those shown on the map. (See task #071-329-1001, Identify Terrain Features (Natural and Manmade) on the Map.)

- a. Hills and valleys.
- b. Roads and trails.
- c. Streams and other bodies of water.
- d. Manmade objects.

3. Determine the six-digit grid coordinates of the target. (See task #071-329-1002, Determine the Grid Coordinates of a Point on a Military Map Using the Military Grid Reference System.)

REFERENCES:

FM 6-30, The Field Artillery Observer
TC 6-40-4, Fire For Effect (part I, pages 4 and 5)
TEC Lesson 949-061-0002-F, Target Location

061-283-6002

LOCATE A TARGET BY SHIFT FROM A KNOWN POINT

CONDITIONS:

You will be given binoculars (if available), a compass, a pencil, and a 1:50,000-scale military map of the target area. You have identified a suspected target near a point known by you to include direction and plotted in the fire direction center (FDC). Your own location is plotted on your map.

STANDARDS:

Locate the target within 250 meters of the actual location. Announce target location within 90 seconds after identification. Express direction to the nearest 10 mils and within 100 mils of actual direction. Express right or left corrections to the nearest 10 meters. Express range corrections to the nearest 100 meters.

PERFORMANCE MEASURES:

Definitions:

1. Deviation. The distance in mils or meters a target is right or left of a known point or the distance in mils or meters around bursts right or left of the target.
2. Lateral shift. The correction in meters the FO sends to the FDC to bring the mortar or artillery rounds onto the observer target (OT) line.
3. Range correction. The correction in meters the FO sends to the FDC to hit, bracket, or creep the mortar or artillery round onto the target for range.
4. OT factor. The known or estimated distance to a target or known point expressed in thousands (2,500 meters would be expressed as 2.5) and used to convert the mils between two points to meters (lateral shift).

1. Determine observer-target (OT) direction.

a. Measuring deviation from a known point to the target.

(1) By binoculars: In looking through binoculars you will find a mil scale which is used to measure horizontal distance (fig. 1). This scale is divided into 10-mil increments, with 100 mils across the scale. Let's say Hill 905 in figure 2 is your known point. You measure the deviation from Hill 905 to the target. The deviation is three 10-mil increments, or 30 mils right of Hill 905.

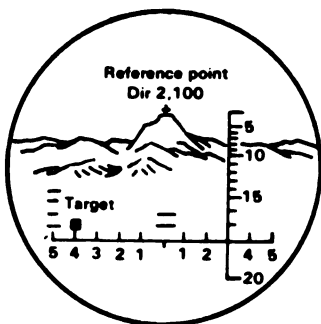


Figure 1

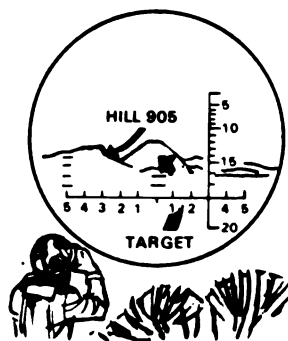


Figure 2

(2) By the hand-and-finger method:

(a) If you do not have binoculars, you can use your hand and fingers to measure how many mils right or left of the known point the target is. One finger is about 30 mils; two fingers, 70 mils; and three fingers, 100 mils. See figure 3 for approximate hand and finger values. To use this method, with your arm fully extended, count the number of fingers it takes to cover the distance from the known point to the target. Then again referring to figure 3 you have a good approximation of the deviation. Using the same known point, Hill 905, and the same target, let's use fingers to measure the deviation (see fig. 4). Extending the arm fully, you find the target one finger to the right of Hill 905. Recall that one finger is about 30 mils.

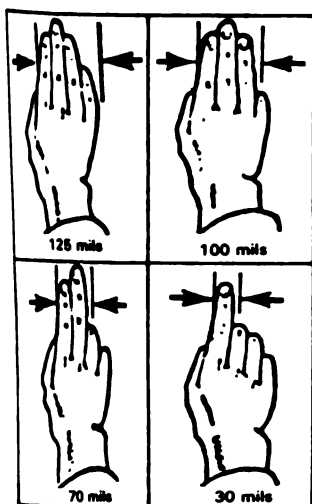


Figure 3

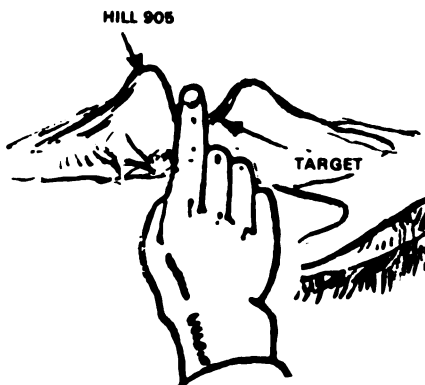


Figure 4

(b) If degrees are being used, remember: 17.8 mils equals 1°. As a general guideline, you can equate mils and degrees by using the relationship 35 mils equals 2°. The field artillery and mortars, however, would prefer measurement in mils. If it becomes necessary to use degrees, be sure you tell the FDC. Remember, your compass will measure mils as well as degrees.

b. Applying deviation. Apply the measured deviation to the known direction (if the target is right of the known point, add deviation; if the target is left of the known point, subtract the deviation).

NOTE: An easy way to remember this is the RALS rule: right-ADD-left-SUBTRACT.

(1) Right Deviations—Add. In figure 2, we know the direction to Hill 905 to be 3200 mils. With the binoculars, we measure the deviation to be 30 mils. Since the target is right of the known point we add the deviation (30 mils) to the known direction (3200 mils). The sum is the direction to the target (3230 mils).

3200	(direction to known point)
+30	(right deviation—add)
3230	(direction to the target)

(2) Left Deviations—Subtract. In figure 1, we know the direction to the reference point (2100 mils). With the binoculars, we measure the deviation to be 40 mils. Since the

target is left of the known point, we subtract the deviation (40 mils) from the known direction (2100 mils). The answer (2060 mils) is the direction to the target.

$$\begin{array}{r} 2100 \text{ (direction to known point)} \\ -40 \text{ (left deviation—subtract)} \\ \hline 2060 \text{ (direction to the target)} \end{array}$$

2. Determine the lateral shift from a known point to the target (see fig. 5) using the mil relation formula.

a. The formula is expressed as $\frac{W}{Rm} = 1$, where m is the angular measurement in mils between the two points, R is the distance in thousands of meters (expressed to the nearest 100) to the known points from which angle m was measured (fig. 5), and W is the lateral distance in meters.

b. A convenient way of using the mil relation formula is to cover the value desired and perform the calculation indicated. For example, to find the lateral shift in meters, the lateral distance (W) would be covered leaving the range (R) to be multiplied by the mils (m).

(1) For our purposes, the mil relation formula is used in conjunction with the distance to the known point expressed in thousands to the nearest 100 to determine lateral shift. The lateral shift in meters (W) is equal to the distance to the known point (R) times the angular deviation in mils (m).

(2) The distance to the known point is the distance from the observer to the known point (to the nearest 100 meters) divided by 1,000. For example, if the distance to the known point (church in fig. 5) is estimated to be 3,200 meters, the distance to the known point is 3.2.

$$\frac{3200}{1000} = 3.2$$

(3) Now we are ready to determine the lateral shift. We multiply the distance to the known point (3.2) by the angular deviation (30 mils); the product is the lateral shift (96 meters).

$$\begin{array}{r} 3.2 \text{ (R)} \\ \times 30 \text{ (m)} \\ \hline 96 \text{ (Lateral shift) } \underline{R} \text{ } \underline{100} \text{ (W)} \end{array}$$

Since the deviation is to the right, expressed to the nearest 10 meters, we shift Right 100.

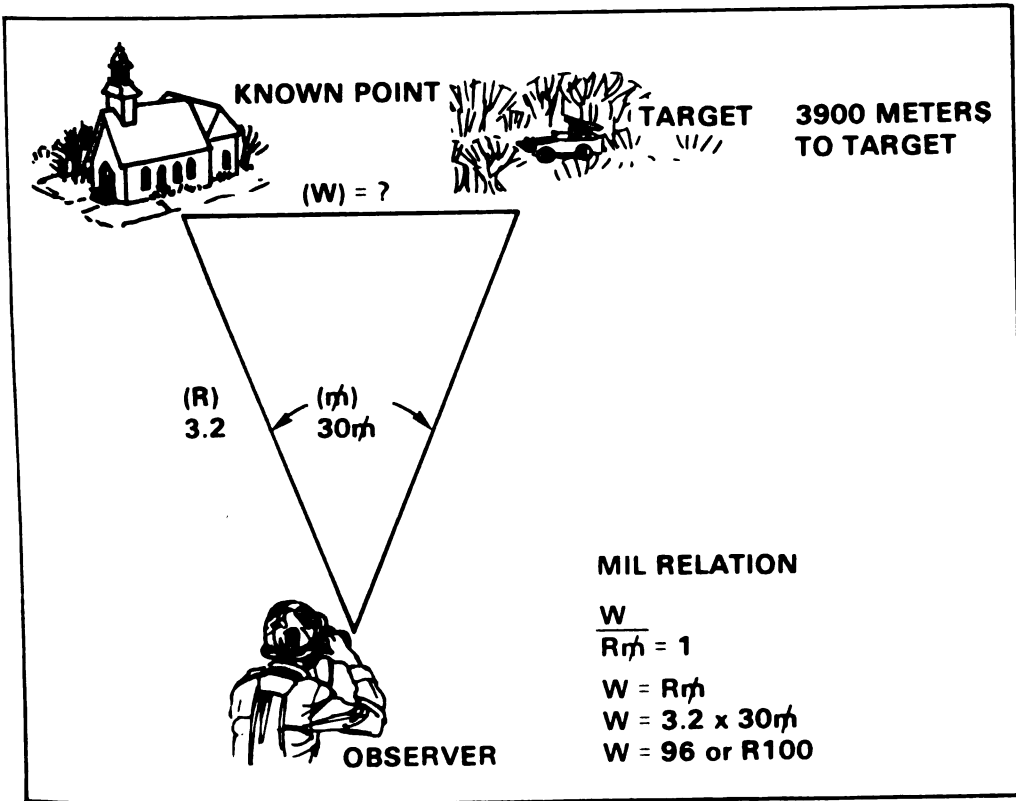


Figure 5

3. Determine range change from the known point to the target (see fig. 5).

a. The range change is estimated to the nearest 100 meters. If the target is beyond the known point, we add the range difference. If the target is closer than the known point, we drop the difference.

b. For example, if the distance to the known point is 3,200 meters and the estimated distance to the target is 3,900 meters, the range change is 700 meters ($3900 - 3200 = 700$). Since the target is beyond the known point, we add 700. If the target distance is estimated at 2,800 meters, the range change is 400 meters ($3200 - 2800 = 400$). Since the target is closer than the known point, we drop 400.

NOTE: Task 071-329-1010, Determine Azimuths, Using a Coordinate Scale and Protractor, must be mastered as a prerequisite to this task.

REFERENCES:

TC 6-40-4, Fire for Effect, Mar 77 (part 1, page 8, pages 10-17)
TEC Lesson 949-061-0001-F, Determination of Direction
TEC Lesson 949-061-0003-F, Locate a Target by Shift From a Known Point
FM 6-30, The Field Artillery Observer

061-283-6003

CALL FOR/ADJUST INDIRECT FIRE

CONDITIONS:

You will be given binoculars (if available), a radio, call signs for fire direction center (FDC), a compass, a coordinate scale, a pencil, and a 1:50,000-scale military map of the target area (targets may vary in range up to 4,000 meters).

STANDARDS:

The initial request for fire must be made within 3 minutes after the target has been designated. Adjustments must be transmitted within 30 seconds after round impacts. Observer must achieve effect on the target within five adjustments.

NOTE: Round must impact within 50 meters of the target to achieve effect on the target.

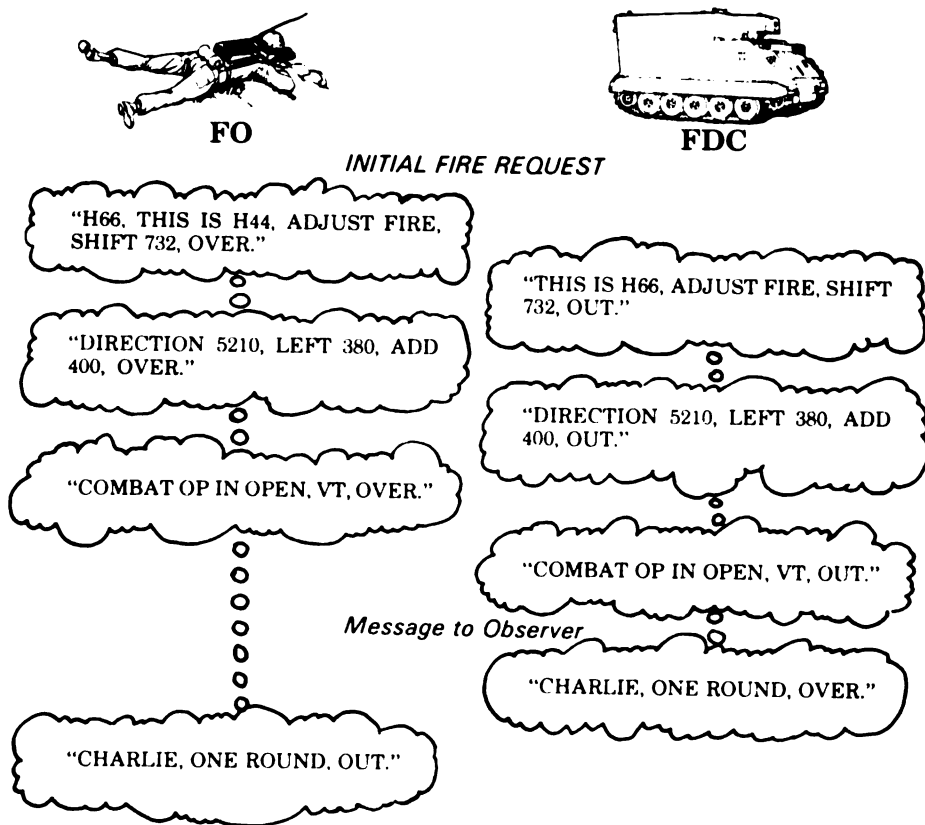
PERFORMANCE MEASURES:

1. Formulate and transmit the initial call for fire.
 - a. Locate the target by grid coordinate, shift from a known point, or polar plot.
 - b. Determine the direction from your position to the target.
 - c. Transmit the call for fire to the FDC on the FDC net. Include the following elements in sequence:
 - (1) Observer identification. (Your call sign.)
 - (2) Warning order. (Adjust fire.)
 - (3) Location of target. (Grid or shift data.)
 - (4) Description of target. (What is the target? Platoon in the open. . .)
 - (5) Method of engagement (may be omitted if area fire is desired).

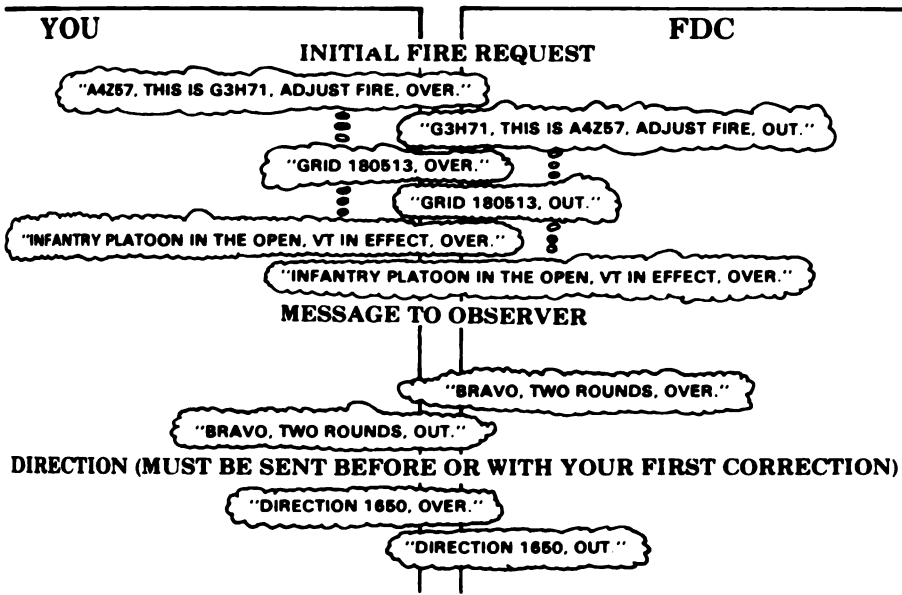
NOTE: If target is within 600 meters of friendly troops, announce "Danger close.")

(6) Method of fire and control.

The initial fire request for a mission using shift from a known point would be somewhat like example 1. The request for a grid mission would approximate example 2.



Example 1



Example 2

2. Adjust fire onto the target using the bracketing method of adjustment. (See fig. 1.)

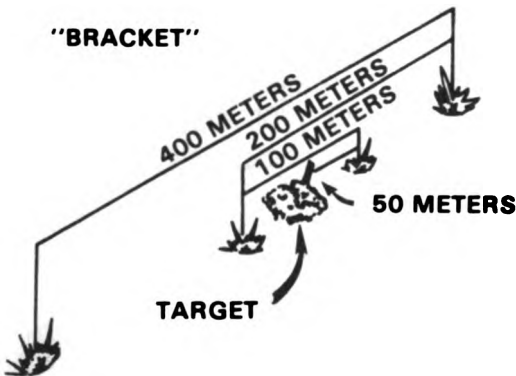


Figure 1

a. Spot each round when it impacts as over or short, right or left of your target.

(1) When the first range spotting is observed, make a range correction that would result in a range spotting in the opposite direction; e.g., if the first round is short, add

enough to get an over on the next round.

(2) Use the following guide to establish a bracket.

Round impact from target	Add or drop
Over 400 meters	+ or - 800 meters
200-400 meters	+ or - 400 meters
100-200 meters	+ or - 200 meters
less than 100 meters	- or - 100 meters

(3) Deviation.

(a) Measure the horizontal angle in mils, using either fingers or the reticle pattern in the binoculars (see figs. 2 and 3). Estimate the range to the target and divide by 1,000. This is the OT factor. If the OT distance is 1,000 meters or greater, the OT factor is expressed to the nearest whole number. If the OT distance is less than 1,000 meters, the OT factor is expressed to nearest 1/10th; e.g., 800 = .8. Multiplying the OT factor by the deviation measured in mils produces deviation in meters.

(b) For example, in figure 2 we measure the round 100 mils right of the target. Estimating the range to be 2,200 meters, the OT factor is 2.2. For adjustment purposes, we express the OT factor to the nearest whole number. Example: 1.1 would be 1; 1.8 would be 2; 2.5 would be 3. Multiplying the angle (100 mils) by the OT factor (2), we get the deviation in meters (200 meters right).

100 (deviation in mils)
<u>2 (OT factor)</u>
200

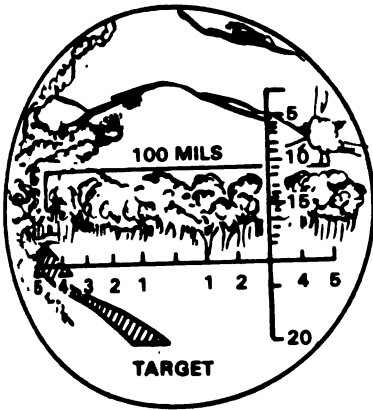


Figure 2

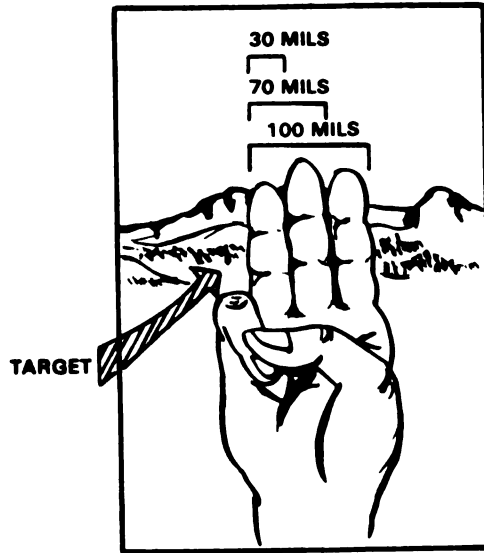
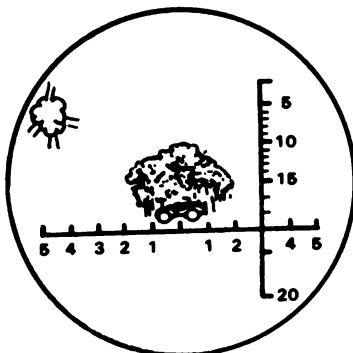


Figure 3

b. Transmit corrections to the FDC in meters. The initial correction should bracket the target in range. Deviation corrections should be made to keep the rounds on line. Figure 4 shows the impact of your initial round. Since the round is beyond the target, you must drop. You estimate that the round is 250 meters beyond the target. Therefore, a 400-meter drop will give you a bracket.

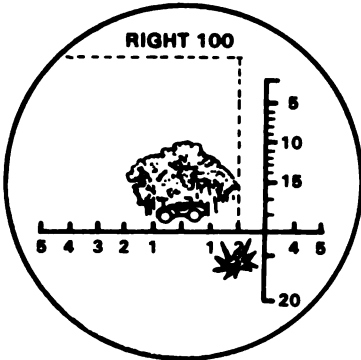
The round impacted 50 mils left of the target. With an OT factor of 2, the round impacted 100 meters left. Your correction to FDC is "Right 100, Drop 400, Over."



(MILS) X (OT) = (SHIFT)
 50 x 2 = 100 METERS
 "RIGHT 100, DROP 400, OVER"

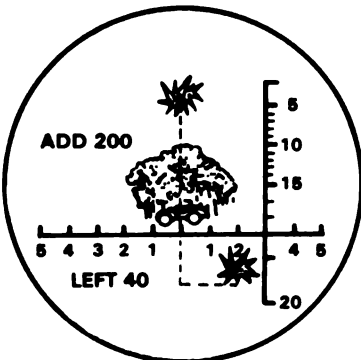
Figure 4

c. Continue splitting the range bracket until a 100-meter bracket is split or a range correct sensing is observed, maintaining deviation on line. Figures 5, 6, and 7 show the next three adjustments. Note that each deviation correction is made to keep the impacting rounds on line. The range corrections split the bracket each time. The adjustment phase of a fire mission would resemble example 3.



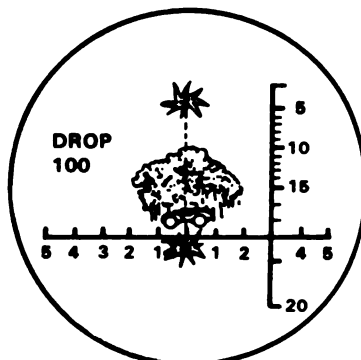
"LEFT 40, ADD 200, OVER"

Figure 5



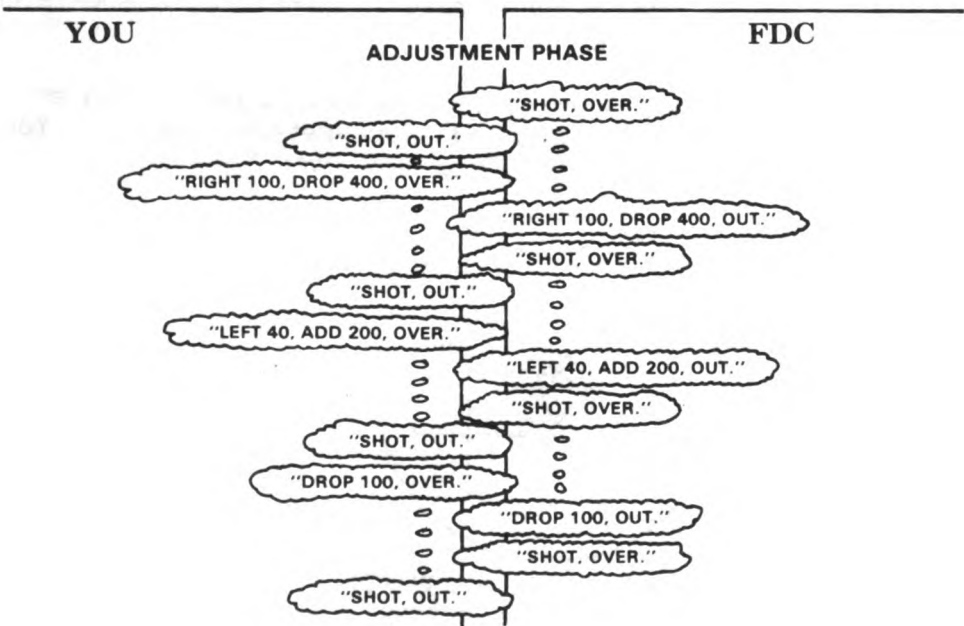
"DROP 100, OVER"

Figure 6



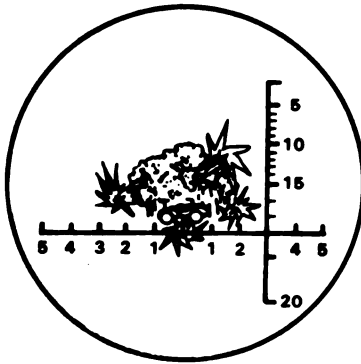
"ADD 50, FIRE FOR EFFECT, OVER"

Figure 7



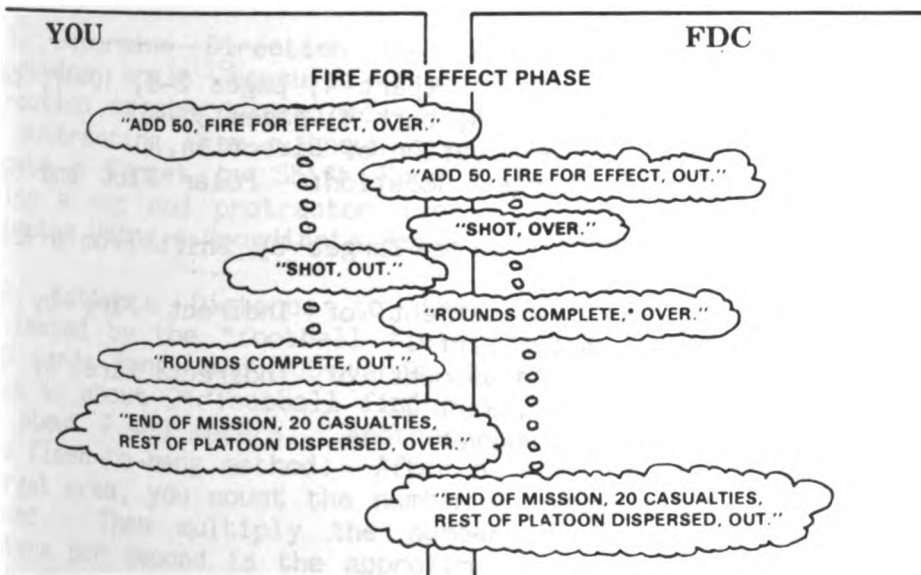
Example 3

d. Initiate fire for effect. When a 100-meter bracket is split or a range correct spotting is made, the fire-for-effect phase is entered. Note that figure 7 shows the 100-meter bracket split and the call is fire for effect. Figure 8 shows a simulated pattern which might be observed in the fire-for-effect phase. (See example 4.)



"END OF MISSION"

Figure 8



*ROUNDS COMPLETE MEANS ALL ROUNDS TO BE EXPENDED IN FIRE FOR EFFECT HAVE BEEN FIRED.

Example 4

3. Observe the results of fire for effect and report the results. When the smoke clears, tell the FDC what the results are. Such things as the number of casualties, damaged equipment, stalled tracks, etc., are important. (See example 4.)

4. In the event that fire is required within 600 meters of friendly troops, the following guidelines apply.

a. Announce "Danger close" to the FDC in the initial call for fire.

b. Initial target location is reported on the enemy side of the target.

c. Creeping procedures are used to adjust danger-close fire.

(1) Range corrections should not exceed 100 meters.

(2) Never bracket; it could cause friendly casualties.

NOTE: In a hostile environment, authentication may be required before fire is delivered.

REFERENCES:

TC 6-40-4, Fire for Effect, Mar 77 (part 1, pages 2-8, 10-17; part 2, pages 20-6; part 3, pages 28-34; part 4, pages 36-40)

TEC Lesson 949-061-0001-F, Determination of Direction.

TEC Lesson 949-061-0002-F, Target Location: Polar Plot and Grid Coordinate Method

TEC Lesson 949-061-0003-F, Locate a Target by Shift From a Known Point

TEC Lesson 949-061-0005-F, Adjustment of Indirect Fire by the Bracketing and Creeping Methods, Part I

TEC Lesson 949-061-0006-F, Adjustment of Indirect Fire by the Bracketing and Creeping Methods, Part II

FM 6-30, The Field Artillery Observer

061-283-6004

LOCATE A TARGET BY POLAR PLOT

CONDITIONS:

You will be given binoculars if available, a compass, a protractor, a coordinate scale, a pencil, and a 1:50,000-scale military map of the target area. You have identified a target. Your position is plotted on your map and is known by the fire direction center (FDC).

STANDARDS:

Locate the target within 250 meters of the actual location. Announce target location within 90 seconds after identification. Express direction to the nearest 10 mils and within 100 mils of the actual direction. Express distance to the nearest 100 meters.

PERFORMANCE MEASURES:

1. Determine Direction to the Target. Direction is the clockwise angle measured from grid north to the target. Direction may be determined using a compass, computed by adding or subtracting from a known direction (see task #061-283-6002, Locate a Target by Shift From a Known Point), determined by using a map and protractor (see task #071-329-1010, Determine Azimuths Using a Coordinate Scale and Protractor), or estimated.

2. Estimate Distance to the Target. Distance can be estimated by the "football field" method. A football field is 100 yards long, and 100 yards is about 100 meters. A target that is about 24 football fields away from you is at a distance of about 2,400 meters. Another way of estimating distance is the flash-to-bang method. After seeing a flash or burst in the target area, you count the number of seconds until you hear the sound. Then multiply the number of seconds times 350 (350 meters per second is the approximate speed of sound) to obtain the distance; i.e., 5 seconds $\times$ 350 = 1,750 meters, which is expressed as 1,800 meters.

REFERENCES:

TC 6-40-4, Fire for Effect, (part 1, pages 6, 7, 10-17)
TEC Lesson 949-061-0002-F, Target Location
FM 6-30, The Field Artillery Observer

071-325-4406

INSTALL/RECOVER A MECHANICAL AMBUSH

CONDITIONS:

Given a bandoleer containing an M18A1 (Claymore) antipersonnel mine (practice) complete with accessories, a roll of tripwire, a plastic spoon or some other nonconductor of electricity, a power source (battery with at least 3 volts), a clothespin, and a knife.

STANDARDS:

1. Within 15 minutes, lay and aim the Claymore IAW performance measures 1 through 5 below.
2. Within 10 minutes, recover the mechanical ambush IAW performance measure 6 below.

PERFORMANCE MEASURES:

1. Laying and Aiming.
 - a. Laying.
 - (1) Check to see that the mine and all accessories are in the bandoleer.
 - (2) Remove the electrical firing wire, leaving the mine and other accessories in the bandoleer.
 - (3) Secure the shorting plug end at the firing position. Place the bandoleer on your shoulder and unroll firing wire to the position selected for emplacing the mine.
 - (4) Remove the mine from the bandoleer and position it with the surface marked "FRONT TOWARD ENEMY" and the arrows on top of the mine pointing in the direction of the enemy or the desired area of fire.
 - b. Aiming (fig. 1). Select an aiming point at ground level that is about 50 meters in front of the mine. Aim the mine by aligning the two edges of the sight with the aiming point (fig. 1).

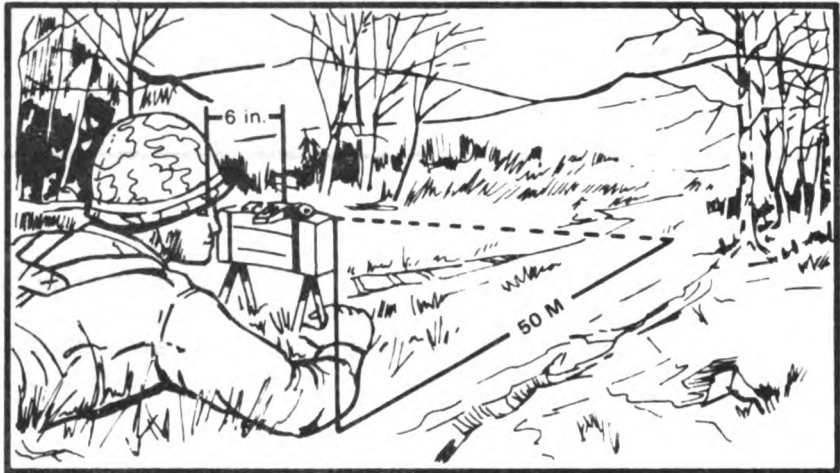


Figure 1

2. Preparation of Firing Wire. Unroll the full length of the firing wire, keeping the blasting cap inside the plastic spoon. Cut the combination shorting plug and dust covers from the end of the firing wire and remove about 2.54 centimeters (1 inch) of insulation from each of the cut wires. Twist the ends of the wires together to prevent static electricity from entering the firing wire and detonating the blasting cap. These wires will later be connected to the power source.

3. Installation of Firing Devices.

- a. Prepare wire as shown in figure 2.
- b. Prepare clothespin as shown in figure 2.

c. Form a loop in each end of the bare wires and fit one loop over the lower jaw and one loop over the upper jaw of the clothespin. Insure that the wires are seated in the cutaway grooves on the clothespin, then twist the wires until they are tight and secure to the jaws of the clothespin.

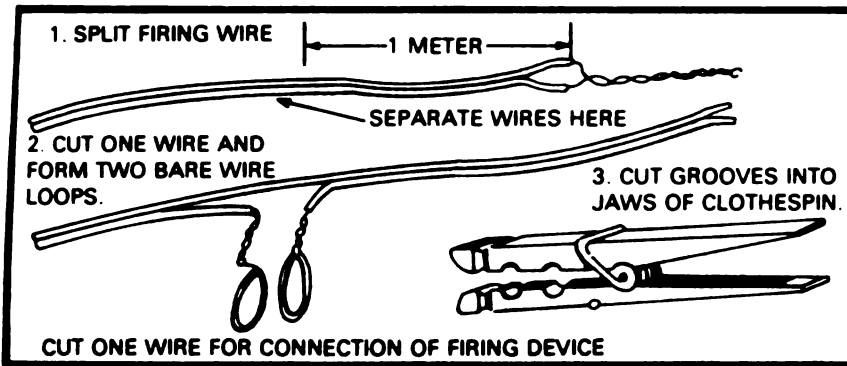


Figure 2

4. Connecting the Tripwire. The tripwire will be attached to a C-ration plastic spoon (or some other nonconductor of electricity). Connect other end of the tripwire to a tree, stake, etc. (fig. 3). Insert the spoon between the jaws of the clothespin. The clothespin will be firmly attached to a tree or stake on the opposite side of target area (fig. 3). The tripwire should be placed about ankle-high to prevent easy detection by the enemy.

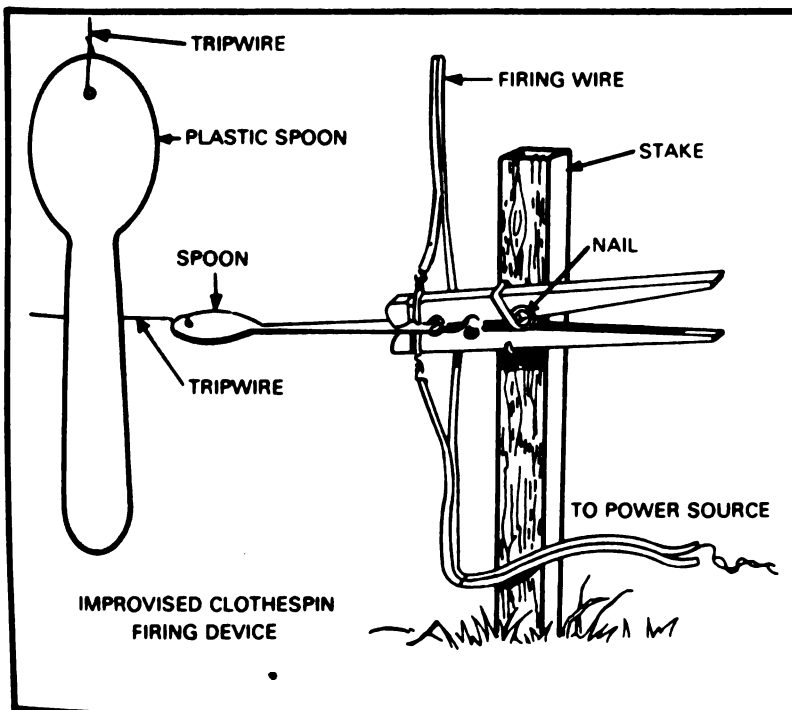


Figure 3

5. Arming and Electrical Firing.

a. Secure the firing wire about 1 meter behind the mine so it will not become mislaid should the firing wire be disturbed. Insert blasting cap into either detonator well and lock with shipping plug priming adapter.

b. Connect power source.

CAUTION: Insure handle of spoon is fully and securely seated in the jaws of the clothespin. Insure that tripwire is not too tight and area is clear of any objects that might fall on the tripwire and cause a premature detonation of the mine. Separate the twisted ends of the firing wire and attach them to the power source. The power source must produce a minimum of 3 volts of electricity.

NOTE: Installation should not be attempted during inclement weather (training only).

An example of a mechanical ambush is shown in figure 4.

6. Recovery of Mechanical Ambush. Reverse the steps used to install a mechanical ambush.

a. Disconnect firing wire from power source.

b. Remove blasting cap from the Claymore, and place the Claymore in bandoleer.

c. Roll up firing wire and recover other items, power source, tripwire, and firing device.

d. Place all equipment in bandoleer.

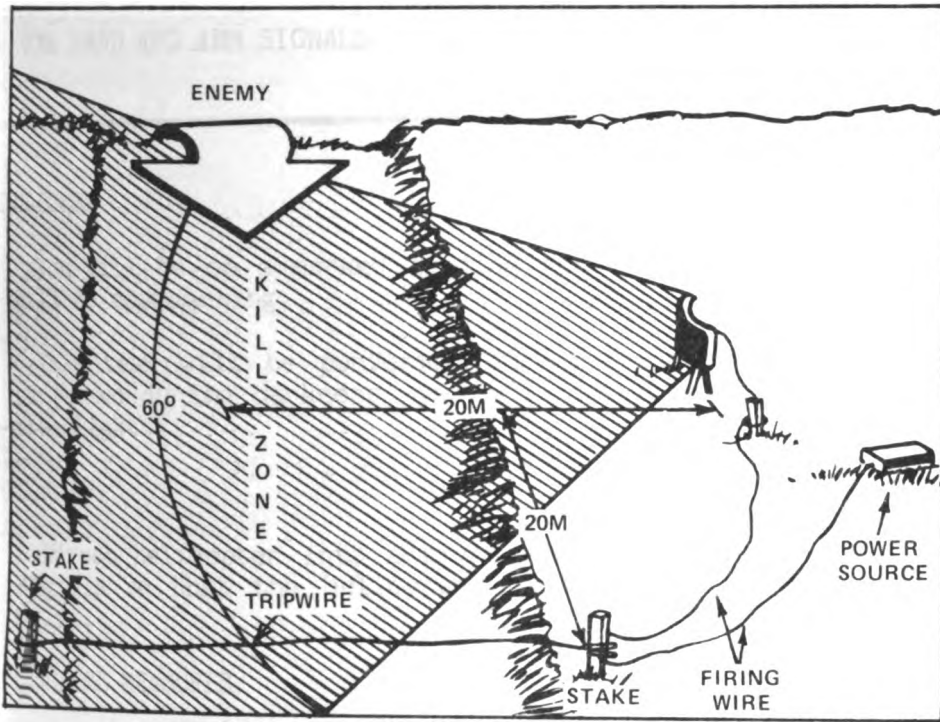


Figure 4

REFERENCE:

FM 23-23, Anti-Personnel Mine M18A1 and M18 (Claymore), Jan 66 C1 and 2.

071-326-0607

USE HAND AND ARM SIGNALS TO DIRECT LANDING OF A HELICOPTER

CONDITIONS:

You will be on a marked landing zone. An airborne helicopter will be approaching.

This task will be performed during daylight or darkness. If performed during darkness, you will be given lighted batons or flashlights.

STANDARDS:

Direct helicopter into a given area using proper hand and arm signals so that the helicopter lands safely at the designated point.

PERFORMANCE MEASURES:

1. Signal must be given in a clear, distinct manner. Signal should be given only when needed.
2. At night, signals are given using lighted batons or flashlights in each hand. Signals given at night are identical to those given in daylight. When using flashlights, take care not to blind the pilot. Batons and/or flashlights should remain lighted at ALL TIMES when signaling.
3. Speed of arm movement indicates desired speed of aircraft in response to signal.
4. Landing helicopter:
 - a. Stand to the right front of the aircraft where the pilot can see you (fig. 1).



Figure 1. Standing position in directing landing of helicopter .

b. To assume guidance, raise arms above the head in a vertical position with palms facing inward (fig. 2).



Figure 2. Assume guidance.

c. To indicate hover, extend arms sideways, horizontally, with palms downward (fig. 3).

NOTE: When guiding a landing helicopter, this signal normally should not be given until the helicopter is approximately 5 feet off the ground and just short of the desired landing point, depending on its forward speed.

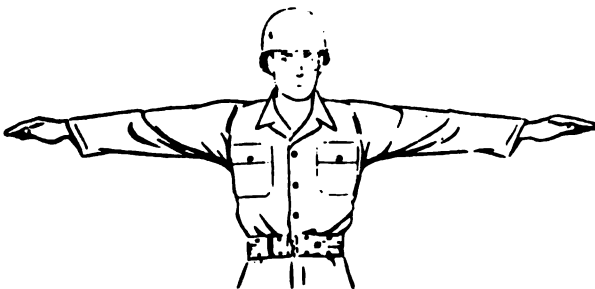


Figure 3. Hover.

d. To indicate move ahead, have arms a little aside, palms facing backwards; repeatedly move upwards and backwards from shoulder height (fig. 4).



Figure 4. Move ahead.

e. To indicate move back, have arms by sides, palms facing forward; sweep arms forward and upward repeatedly to shoulder height (fig. 5).

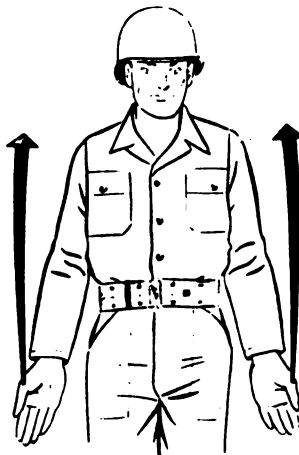


Figure 5. Move back.

f. To indicate move upwards, extend arms sideways, horizontally, with palms upward, beckoning upwards by moving arms to above the head (fig. 6).

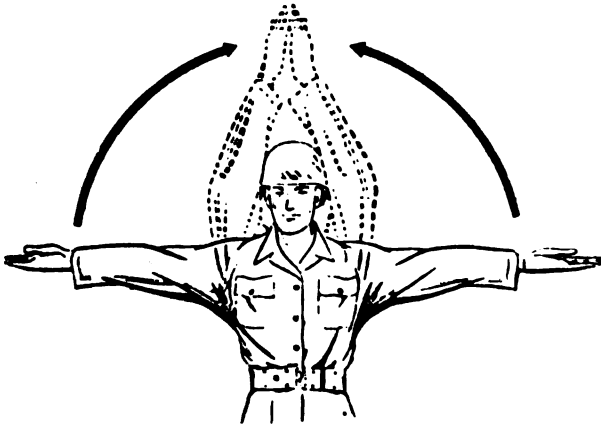


Figure 6. Move upwards.

g. To indicate downwards, extend arms sideways, horizontally, with palms turned down, beckoning downwards by moving arms down to side of body (fig. 7).

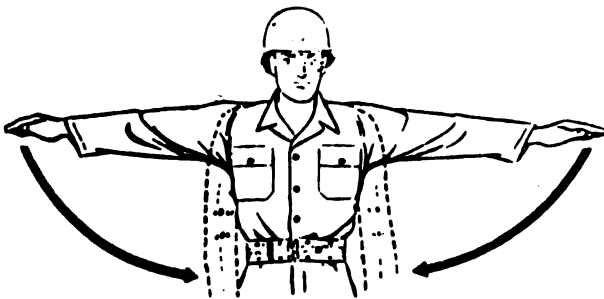


Figure 7. Move downwards.

h. To indicate move right, extend left arm sideways, horizontally, in direction of movement and repeatedly swing right arm in front of body in the same direction (fig. 8).

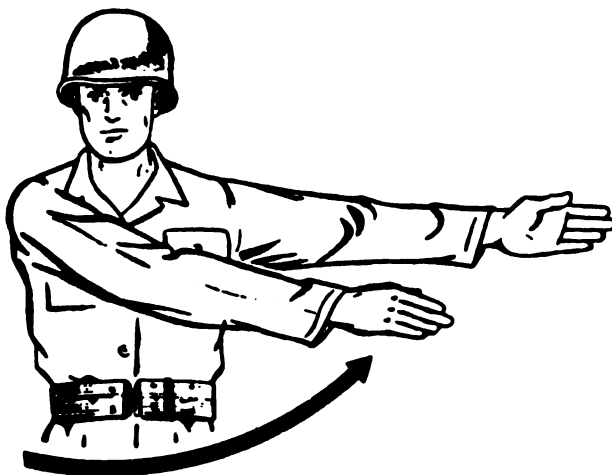


Figure 8. Move right.

i. To indicate move left, extend right arm sideways, horizontally, in direction of movement and repeatedly swing left arm in front of body in the same direction (fig. 9).



Figure 9. Move left.

j. To indicate cut sling load, extend left arm horizontally with fist toward the load while the right arm, with palm down, makes a horizontal slicing motion under the left arm (fig. 10).



Figure 10. Cut sling load.

k. To indicate a spot turn, move left or right hand upward and backward from a horizontal position to indicate direction of tail movement; other hand pointing to center of spot turn (fig. 11). You must stay in full view of the pilot.



Figure 11. Spot turn.

1. To indicate land, extend arms downward and cross in front of body (fig. 12).



Figure 12. Land.

- m. To indicate stop, cross arms repeatedly above the head (fig. 13).



Figure 13. Stop.

n. To indicate takeoff, extend right hand overhead, make circular movement, then using a throwing motion, extend arm in the direction of takeoff (fig. 14).

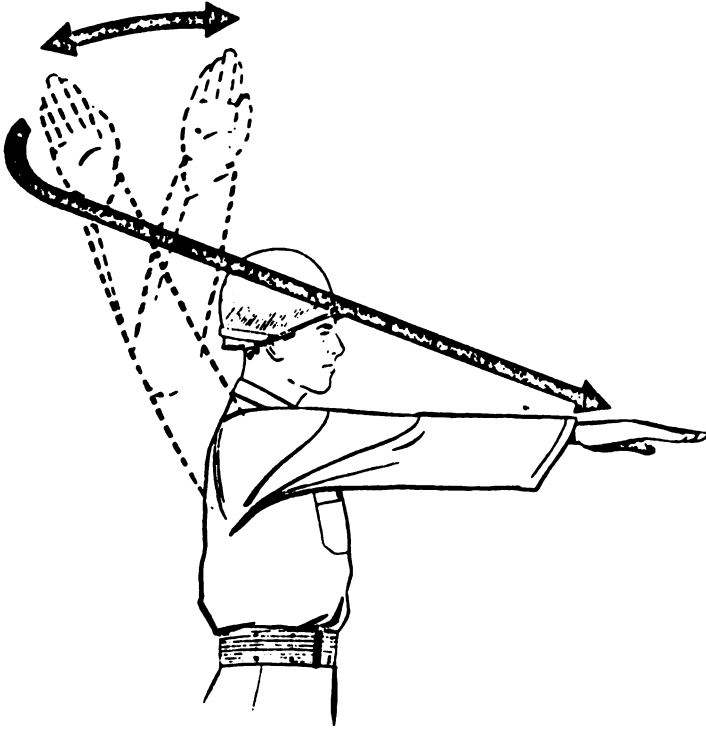


Figure 14. Takeoff.

REFERENCE:

FM 57-38, Pathfinder Operations, Oct 68, C1 and 2 (app F).

071-326-1000

CONSTRUCT A PONCHO RAFT
(BRUSH OR AUSTRALIAN)

CONDITIONS:

Given a minimum of one other soldier, both of you have individual equipment including at least two ponchos, two rucksacks/packs, LBE, individual weapons, and a requirement to cross a water obstacle with little or no current.

- NOTES:
1. Construction of the brush raft requires the following additional material: a machete or some cutting tool, brush, two small saplings, and a rope for towing.
 2. Construction of the Australian raft requires the following additional material: two 4-foot poles for bulk and a rope for towing.

STANDARDS:

1. The poncho raft constructed supports the weight of the equipment within it.
2. Transports equipment across the water obstacle safely.

PERFORMANCE MEASURES:

1. In crossing rivers and streams, it is unlikely that you will have engineer support to assist your river and stream crossings. You must, therefore, know how to cross water obstacles with minimum materials.

2. There are several expedient ways to cross water obstacles. The one most often used is the poncho raft, since all soldiers carry or have available to them the material to construct such a raft.

a. Poncho brush raft:

(1) With the help of a buddy, take two ponchos and tie the neck of each tightly by using the drawstring.

(2) Spread one of the ponchos on the ground with the tied-off hood up so that it will end up on the inside of the raft.

(3) Cut fresh, green brush (no thick branches) and pile it on the poncho about knee-high (18 inches).

(4) Make an X-frame of small saplings on the pile of brush. Anchor this X-frame by tying the drawstring of the poncho up through the brush and around the center of the X-frame.

(5) At this point, pile another 18 inches of brush on top of the X-frame.

(6) With the help of your buddy, compress the brush slightly and fold the poncho up around the brush. Using ropes or vines tie diagonally across from corner grommet to corner grommet and straight across using side grommets. The sides of the poncho will not be pulled together during this tying procedure.

(7) Now, spread the second poncho on the ground with the tied-off hood up, next to the bundle made of the first poncho and brush. Roll the bundle over onto the center of the spread poncho so that the tied side is down. Tie off the second poncho in the same manner around the bundle as the first poncho.

(8) This raft will safely float 250 pounds and is very stable.

(9) An empty canteen tied to one end of a rope, with the other end tied to the raft, will assist in towing.

b. Australian poncho raft:

(1) When there is not enough time to gather a lot of brush, you can make a raft using only your individual equipment and two 4-foot poles for bulk. It is more waterproof than the poncho brush raft but will float only about 80 pounds of weight.

(2) With the help of a buddy, take two ponchos and tie the neck of each tightly by using the drawstring.

(3) Place one poncho on the ground with the hood facing up.

(4) Place the two 4-foot poles (or branches) in the center of the poncho about 18 inches apart.

(5) Place the rucksacks, packs, and/or other equipment desired between the poles.

NOTE: To keep individual clothing dry, you should place outer garments and boots on the poncho at this point.

(6) With the help of your buddy, snap the poncho sides together, hold the snapped portion of the poncho in the air, and roll it tightly down toward the equipment. Make sure the full width of the poncho is rolled.

(7) At this time, each of you take one end of the roll and twist the roll to form pigtails. Bend these back over the bundle and tie them securely in place using bootlaces, vines, rope, or other available material.

(8) Now, spread the second poncho on the ground with the tied-off hood up (if you have time or need more bouyancy, you could at this time place some fresh, green brush between this poncho and the first one).

(9) Place the equipment bundle formed with the first poncho, with the pigtails facing down, on the second poncho.

(10) Snap and roll the second poncho in the same manner as the first poncho, then twist and tie the pigtails. For added security, bind the raft about 1 foot from each end.

(11) Place your weapons on top of the raft and secure them to the raft.

(12) Again, an empty canteen tied to one end of a rope, with the other end tied to the raft, helps in towing. The raft is now ready for the water.

3. When launching any poncho raft, or leaving the water with it, take care not to drag it on the ground as this might cause punctures or tears.

REFERENCE:

FM 31-35, Jungle Operations

071-326-1001

CONSTRUCT A ONE-ROPE BRIDGE

CONDITIONS:

In a field training environment you will be given the following equipment per person/piece of equipment to be moved across the obstacle (stream, small river, gorge, etc.).

- a. Two snaplinks per piece of heavy equipment.
- b. Two snaplinks per double butterfly.
- c. One snaplink per lifeguard bundle.
- d. One snaplink per person.
- e. One utility rope per person.
- f. One 10-foot utility rope per piece of heavy equipment.
- g. Sufficient length of 1/4-inch rope.
- h. One snaplink per lifeguard rucksack.
- i. One waterproof bag and B7 life preserver.

STANDARDS:

1. The rope bridge must support a soldier's weight and equipment from the close bank to the far bank (approximately 300 pounds).
2. At the anchor points, rope must be tied off using double butterfly knots.
3. Utility rope must be tied to each individual's waist using a bowline knot. The bowline knot will also be used for the snaplink hookup.

PERFORMANCE MEASURES:

1. Task will be performed by as many as five soldiers in the following manner:

a. Actions of number one man (near shore lifeguard).

- (1) Removes clothing.
- (2) Secures clothing and equipment in a single bundle using utility rope.
- (3) Bundle is placed in a secure position on the bank near the lifeguard's position.
- (4) He ties an end of the rope bowline in a utility rope and places it on his arm. He ties an overhead knot in the running end for a lifesaving aid.
- (5) He puts on a B7 life preserver.
- (6) He enters water and assumes his lifesaving position downstream.
- (7) No other patrol member enters the water prior to the near shore lifeguard.

b. Actions of the number two man (far shore lifeguard).

- (1) Removes clothing as was done by the near shore lifeguard.
- (2) Places bundle at the near shore anchor point.
- (3) He ties his utility rope around his waist using a round turn and a square knot with the half hitches.

c. When these actions have been completed and the ropes are properly prepared and inspected, the following occurs:

- (1) The number two man enters the water with the loop of the 1/4-inch rope attached to the utility rope around his waist by means of a snaplink.
- (2) The number two man then moves upstream paralleling the bank to compensate for current, while the number three man carefully feeds out the 1/4-inch rope.
- (3) The number two man swims to the far shore anchor point.
- (4) The number two man climbs the bank, moves to and behind the far shore anchor point.

(5) The number two man pulls the remainder of the 1/4-inch rope and approximately 8-10 feet of the 1/2-inch rope across.

(6) The number two temporarily secures the ropes while the number three man and number four man pull the slack out of the rope.

(7) The number four man holds the rope taut while the number three man ties a double butterfly and completes the transport tightenting system.

(8) The number two man then pulls the double butterfly away from the near shore anchor point (9-10 feet if manila rope is used and one-third the distance across the river if nylon rope is used) and ties off the 1/2-inch rope with a round turn and two half hitches with a quick release.

(9) The number three man with the aid of the number four man and number five man tighten the rope and tie it off with a round turn and two hitches with a quick release in the last half hitch.

(10) Once all the personnel have crossed, the number three man secures the number one man's bundle and crosses.

(11) The number three man breaks down the knot on the far shore.

(12) The number one man breaks down the knots on the near shore and hooks into the 1/2-inch rope.

(13) The number three, number four, and number five men pull all the slack out of the rope, then pull the number one man across the river.

d. Personnel then reorganize on the other side.

2. Senior person present must inspect all equipment prior to use in this task.

REFERENCES:

FM 21-50, Ranger Training and Ranger Operations, Jan 1962.

071-326-1025

PREPARE A UH-1 HELICOPTER FOR RAPPELLING

CONDITIONS:

You will be provided a UH-1 helicopter or a mockup and the equipment needed for rigging.

STANDARDS:

Within 30 minutes correctly rig a UH-1 helicopter for rappelling.

PERFORMANCE MEASURES:

1. Remove all seats from the cargo compartment of the helicopter.

2. Lock cargo compartment doors in the open position. If locks are not present, remove the doors.

3. Pad and tape all sharp edges on the floor and door ledge and the protrusions on the skids.

4. Secure the donut ring to the center of the floor of the helicopter (fig. 1).

a. Position the snaphook that is attached to the floating safety ring so that the gate is up and facing the front of the helicopter.

b. Position the clamps of the donut ring toward the aft end of the helicopter.

c. Next, place the floating safety ring within the donut ring and fasten with a snaphook to the single tiedown ring. The floating safety ring is referred to as the number two anchor point for the rappelling ropes. Either one of the following two types of floating safety ring may be used:

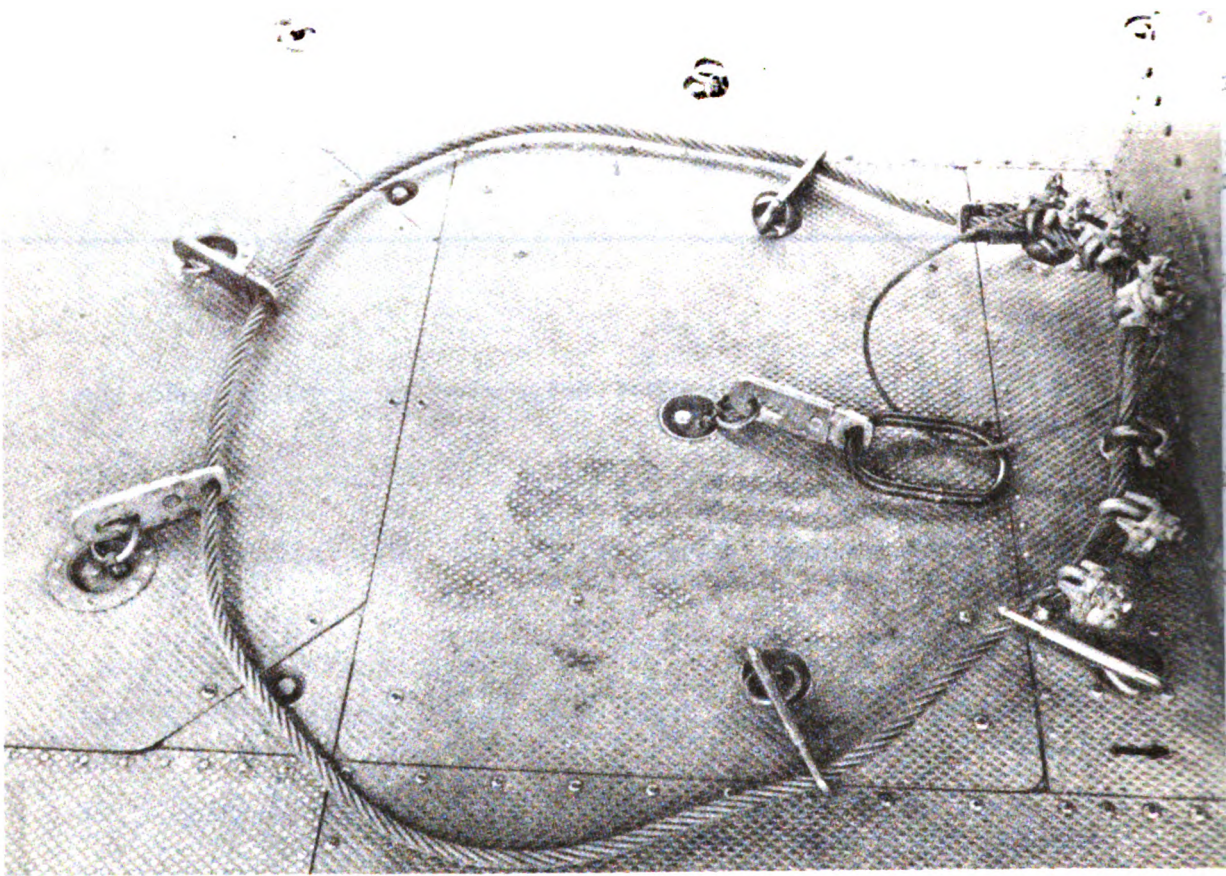


Figure 1. Donut ring attached to the floor of the helicopter.

(1) An elliptical rapelling ring will be threaded through the free end of the cable. A seventh parachute static line snaphook will be threaded onto the ring prior to welding. The ring will be welded together so that it will withstand a pull of 3,000 pounds.

(2) Two snaplinks will be attached to the helicopter tiedown ring in the center of the donut ring. Attach the snaplinks in the following manner (fig. 2):

(a) Insert the first snaplink through the free end of the cable and the tiedown ring with the gate down.

(b) Insert the second snaplink through the free end of the cable and the tiedown ring with the gate up.

(c) Close and tape the snaplink gates with masking tape.

(d) Tape the snaplinks together, insuring that the snaplink gates are on opposite sides of one another.

5. Secure two snaplinks on the rappelling rope approximately 18 inches apart by using two anchor knots.

6. Secure the snaplinks to the donut ring and the floating safety ring with the gates up.

7. The rappelling rope is connected to the floating safety ring and the donut ring in the following order (figs. 3 and 4).

a. The number one anchor point (donut ring). Attach snaplink number one as follows.

(1) Take a bight approximately 5 feet from the running end of the rope as it is uncoiled from the coiling log.

(2) Insert the rope into the snaplink.

(3) Make one turn through the snaplink forming a round turn.

(4) Secure the round turn to the snaplink with two half hitches.

(5) Make the connection to the donut ring by snapping the snaplink up, fastening it to the cable. The gate will remain facing upwards with the opening facing away from the knot.

b. The number two anchor point connection (floating safety ring). Attach the number two snaplink in the same manner except—

(1) Take a bight approximately 2 feet from the running end of the rope.

(2) Connect the snaplink to the rope in the same manner as the first connection. Tape the running end of the rope and the knots with masking tape or green engineer tape to secure them in place.

(3) Make the connection to the floating safety ring in the same manner as the connection to the donut ring.

REFERENCE:

None

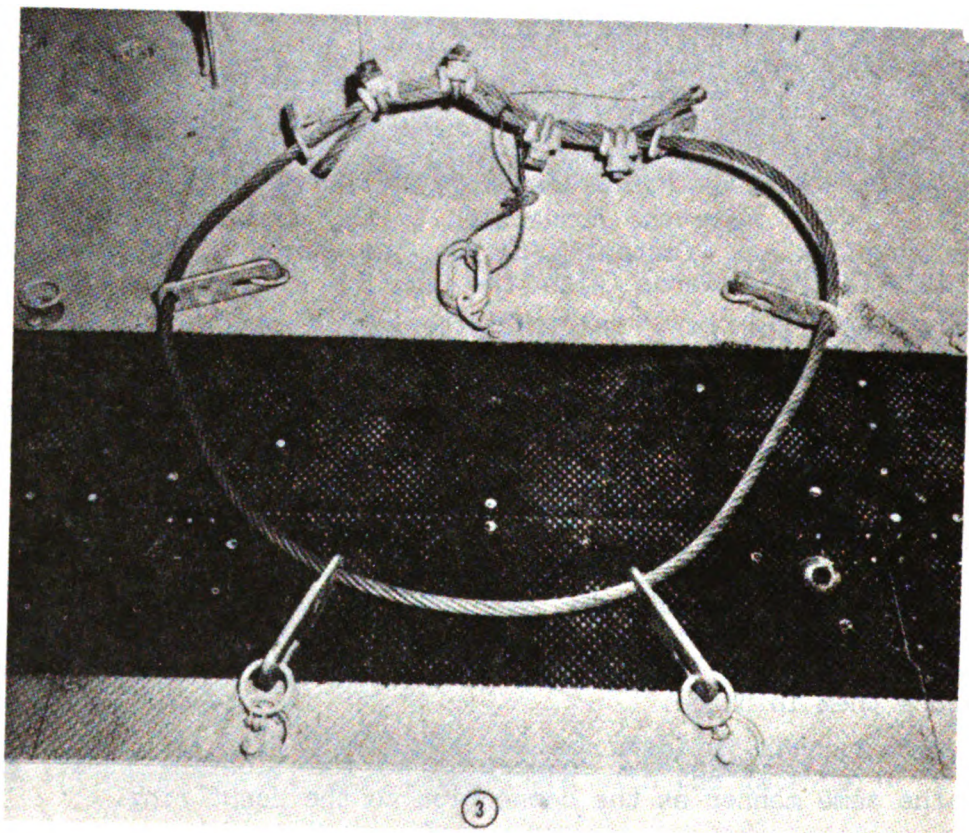
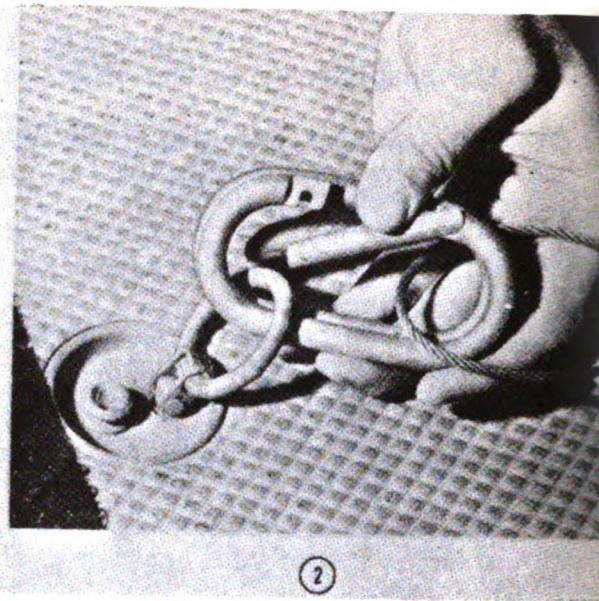
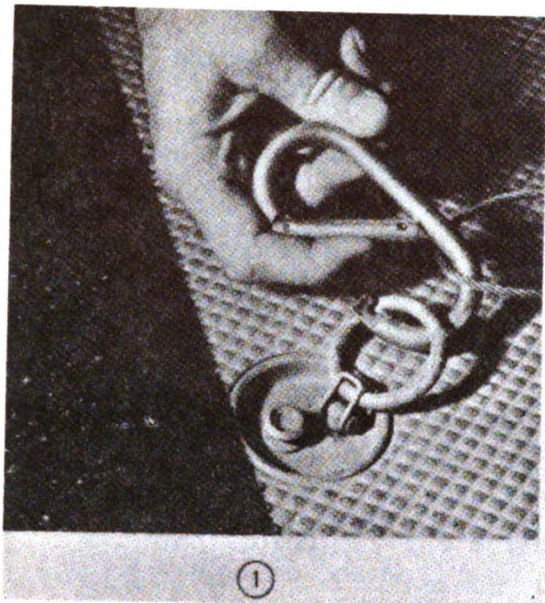


Figure 2. Floating safety rung formed with two snaplinks.

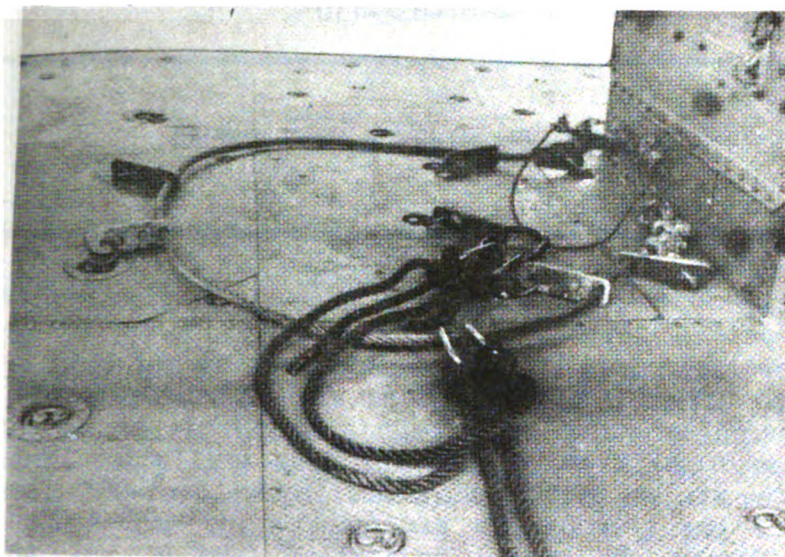


Figure 3. Rappel rope connection in the helicopter.

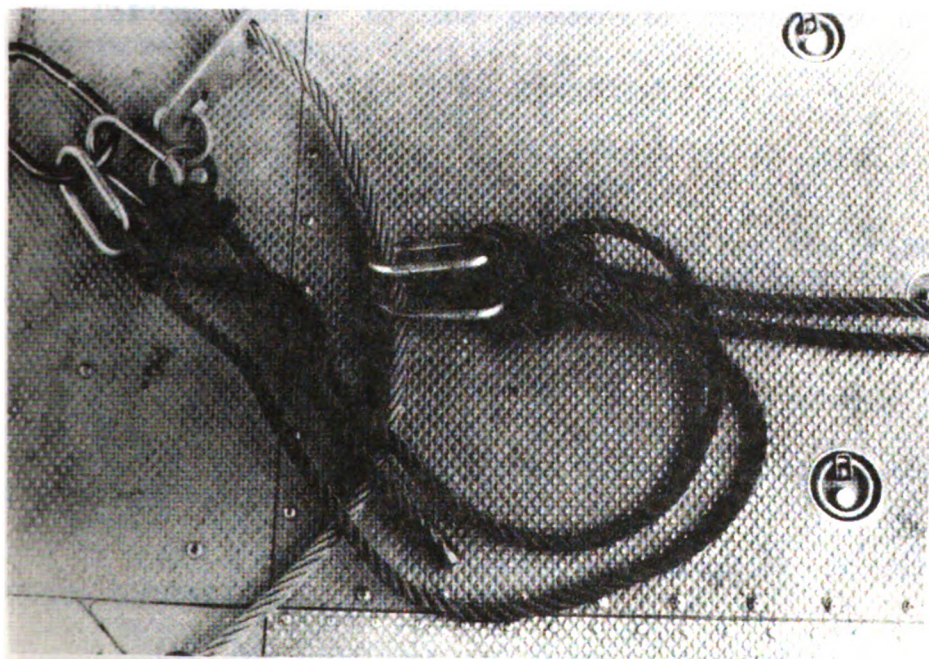


Figure 4. Rappel rope connection using two snaplinks for the floating safety ring.

071-326-1026

RAPPEL FROM HOVERING HELICOPTER

CONDITIONS:

In a training or combat environment, given individual weapon, pack and/or rucksack, web equipment (as dictated by individual in charge of training), steel pot with chinstrap, gloves, snaplink, rappelling seat (12-foot nylon sling rope) or rappel harness, 120-foot rappelling rope rigged at the standing part with two anchor point snaplinks and running end coiled around coiling log, a UH-1 helicopter rigged for rappelling, safety NCO, and procedural and safety briefings.

STANDARDS:

1. Follow all instructions of the safety NCO.
2. Descend safely to the ground in accordance with the performance measures.

PERFORMANCE MEASURES:

1. Prepare to Rappel.
 - a. Coil rope. Lay running end of double rope along length of coiling log. Coil double rope around both the running end of rope and coiling log. Insure that rope is coiled evenly and tightly (fig. 1).
 - b. Don equipment.
 - (1) Insure that shirt is tucked securely in trousers, sleeves are buttoned up.
 - (2) Rig a rappel seat with snaplink or put on a rappel harness.
 - (3) Don remaining equipment to include steel pot with chinstrap fastened, gloves, pack and/or rucksack, web equipment (as dictated by individual in charge of training), rifle slung diagonally across back, sling tight and muzzle down on opposite side of brake hand.

(4) Tape all loose strap ends to avoid entanglement with rappel rope.

CAUTION: No equipment will be on brake hand side of pistol belt.

c. Hook into helicopter.

(1) Secure 120-foot rappelling rope and coiling log and approach helicopter.

(a) Rappeller wearing rappel seat.

1. Upon entering the helicopter, grasp the end snaplink on the rappelling rope and secure it to the floating safety ring, gate facing upwards and opening away from the knot in the rope. Grasp second snaplink on rappelling rope and secure it to the donut ring in the same manner as first snaplink (fig. 2).

2. Rappeller will then face rappel rope, place it through the snaplink, and bring the standing part of the rope through the snaplink so a full turn of the rope is through the snaplink.

NOTE: One additional full turn should be placed through snaplink if rappeller's weight exceeds 190 pounds.

(b) Rappeller wearing rappel harness.

1. Rappeller wearing rappel harness must first route his rappelling rope through the rappel ring twice before hooking rappel rope to anchor system (donut ring and floating ring assembly) (fig. 3).

2. Standing part of rappel rope is then secured to anchor assembly by grasping end snaplink on rappelling rope and securing it to floating safety ring gate facing upwards and opening away from knot in the rope. Grasp second snaplink on rappelling rope and secure it to donut ring in same manner as first snaplink (fig. 2).

3. Assume sitting position on floor of helicopter near edge of aircraft door with brake hand on, insuring that there is no slack between donut ring and brake hand.

4. When coiling log is placed in lap, secure coiling log by placing one end under inside leg and other half on top of outside leg (fig. 4).

5. Check equipment and insure rappelling rope is not tangled on any part of interior of helicopter or equipment and rappelling rope is properly fed through rappelling ring/snaplink.

d. Assume position.

(1) On command, "GET READY," look toward donut ring and pull rope to check anchor point connection. Then check rappel seat snaplink/rappel harness rappel ring to insure rope is properly inserted. Sound off with, "Ready."

(2) On command, "SIT IN THE DOOR," swing legs around to outside edge of helicopter door and take up a sitting position, keeping the brake hand on (fig. 5).

(3) On command, "DROP ROPE," drop coiling log with guide hand, insuring rope does not fall between cargo compartment and skid and that the rope is not tangled or fouled. Insure rope is touching the ground. Sound off with, "Rope clear."

(4) On command, "POSITION," use guide hand and apply brake as necessary to assist in mounting and pivoting 180° on helicopter skid bar. Face the interior of the helicopter, spread feet shoulder width apart, lock knees, and bend forward at the waist, forming an "L" shaped body position (figs. 6 and 7). Rappeller and safety NCO will then conduct final visual inspection of hookup.

2. Rappel.

a. Execute rappel.

(1) Upon command, "GO," bound out from the skid, extend brake hand toward ground, allowing rope to pass through guide and brake hands, descending approximately 8 feet per second (fig. 8).

(2) During descent, look at ground over brake hand, keeping feet together, legs straight, and body in "L" position. Initiate breaking action slowly (fig. 9).

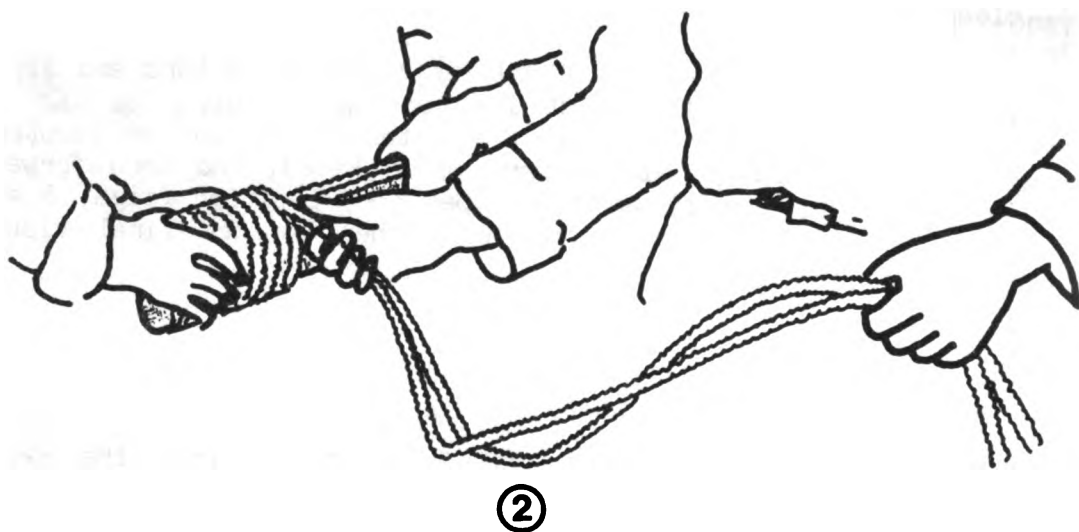
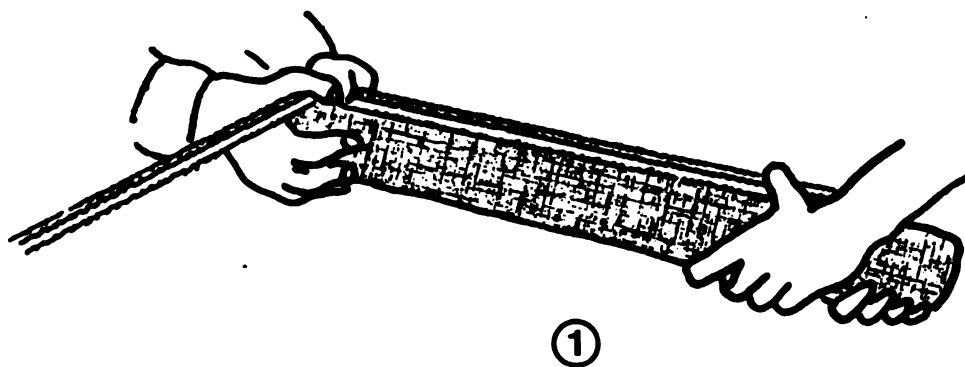


Figure 1. The coiling log.

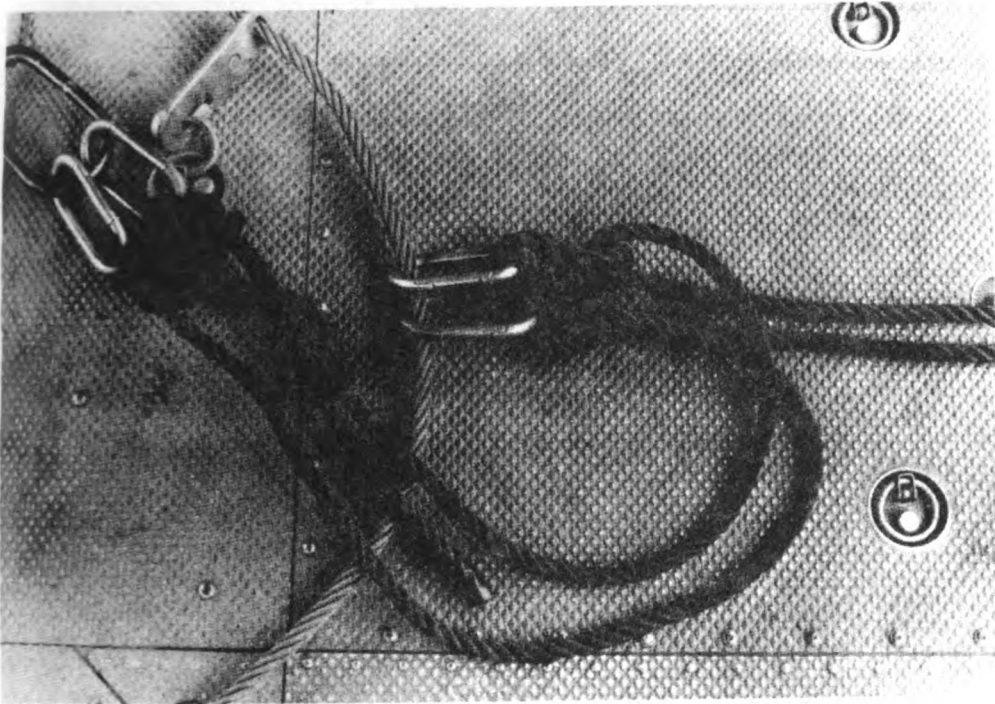


Figure 2. Rappel rope connection using two snaplinks for the floating safety ring.



Figure 3. Placement of the rappel rope through the rappel ring.

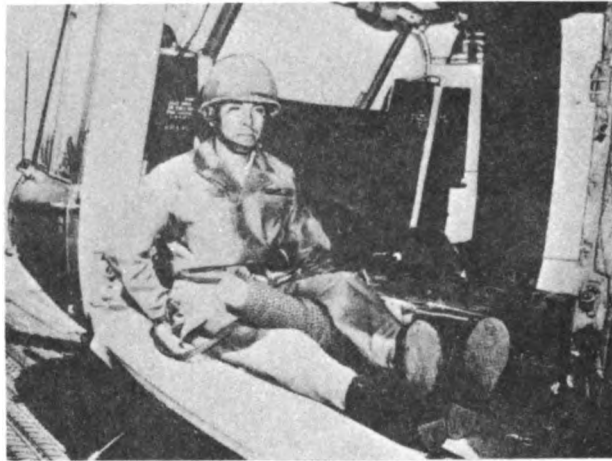


Figure 4. Rappeller on helicopter after looking up and checking his equipment.



Figure 5. Rappeller sitting in the door of a helicopter.

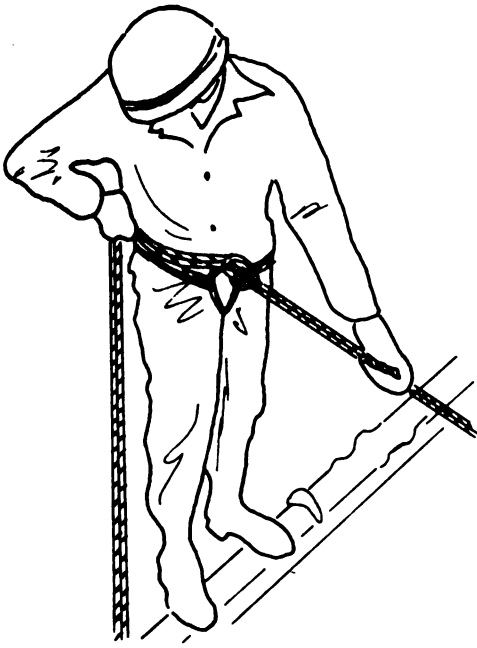


Figure 6. Rappeller's position on skid.



Figure 7. Rappeller in "L" body position.



Figure 8. Rappeller kicks away from skid.

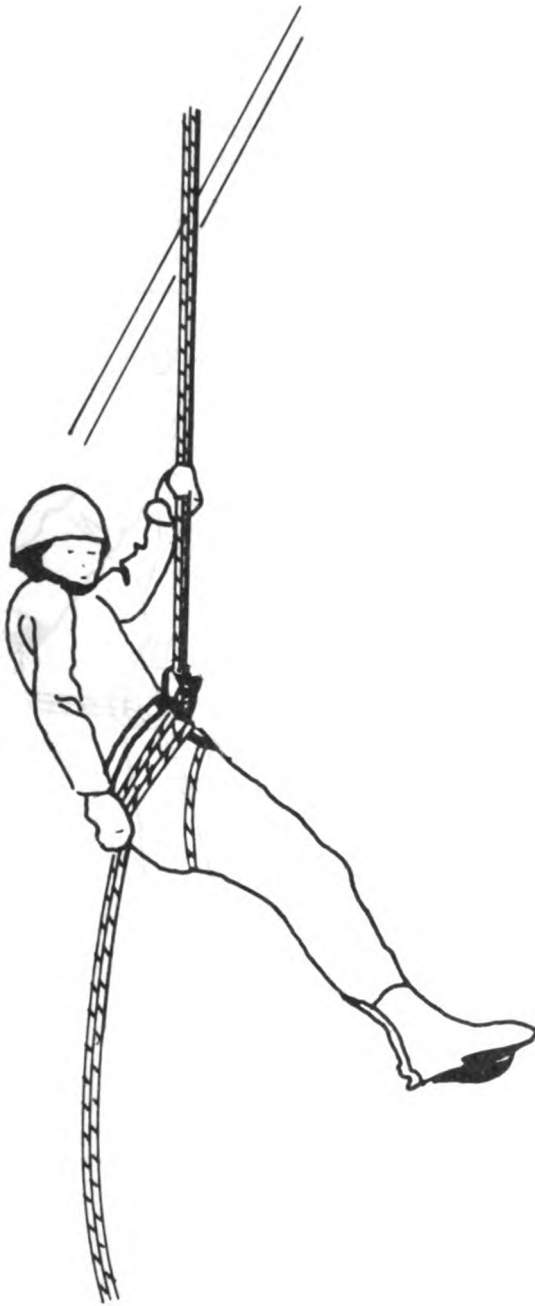


Figure 9. Rappeller looks at ground during descent.

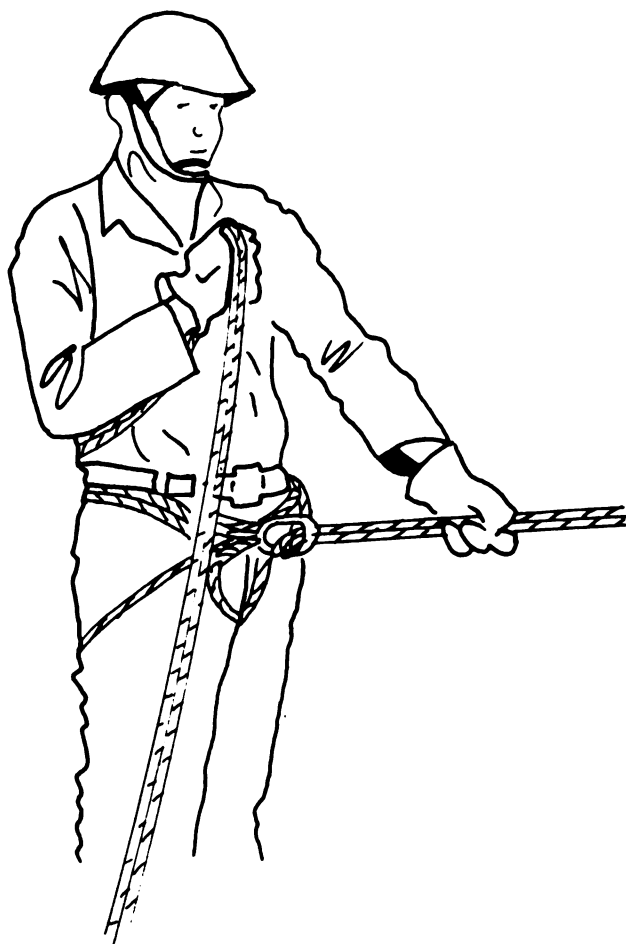


Figure 10. Alternate (cross-chest) method of braking.

NOTE: Alternate (cross-chest) method of braking may be employed to facilitate rappelling with heavy equipment and/or through dense vegetation. Route rappel rope through snaplink or steel ring on rappel seat or rappel harness, around one side of rappeller and along his back to other side where rope rests in rappeller's brake hand. To brake (fig. 10), the rappeller moves his brake hand toward his chest and in a curling motion.

b. Complete rappel. Upon reaching ground, clear the rappel rope through the snaplink or rappel ring unit it is free.

REFERENCE:

FM 57-38, Pathfinder Operations, Oct 68, Cl,2 (app G, sec III, IV)

071-326-1027

RAPPEL FROM A 35-FOOT RAPPEL TOWER

CONDITIONS:

You will be given the required rappel equipment, rucksack, combat equipment, M-16 rifle, at a 35-foot rappel tower.

STANDARDS:

Rappel twice without equipment and twice with equipment from the ramp and skid side of a 35-foot tower.

PERFORMANCE MEASURES:

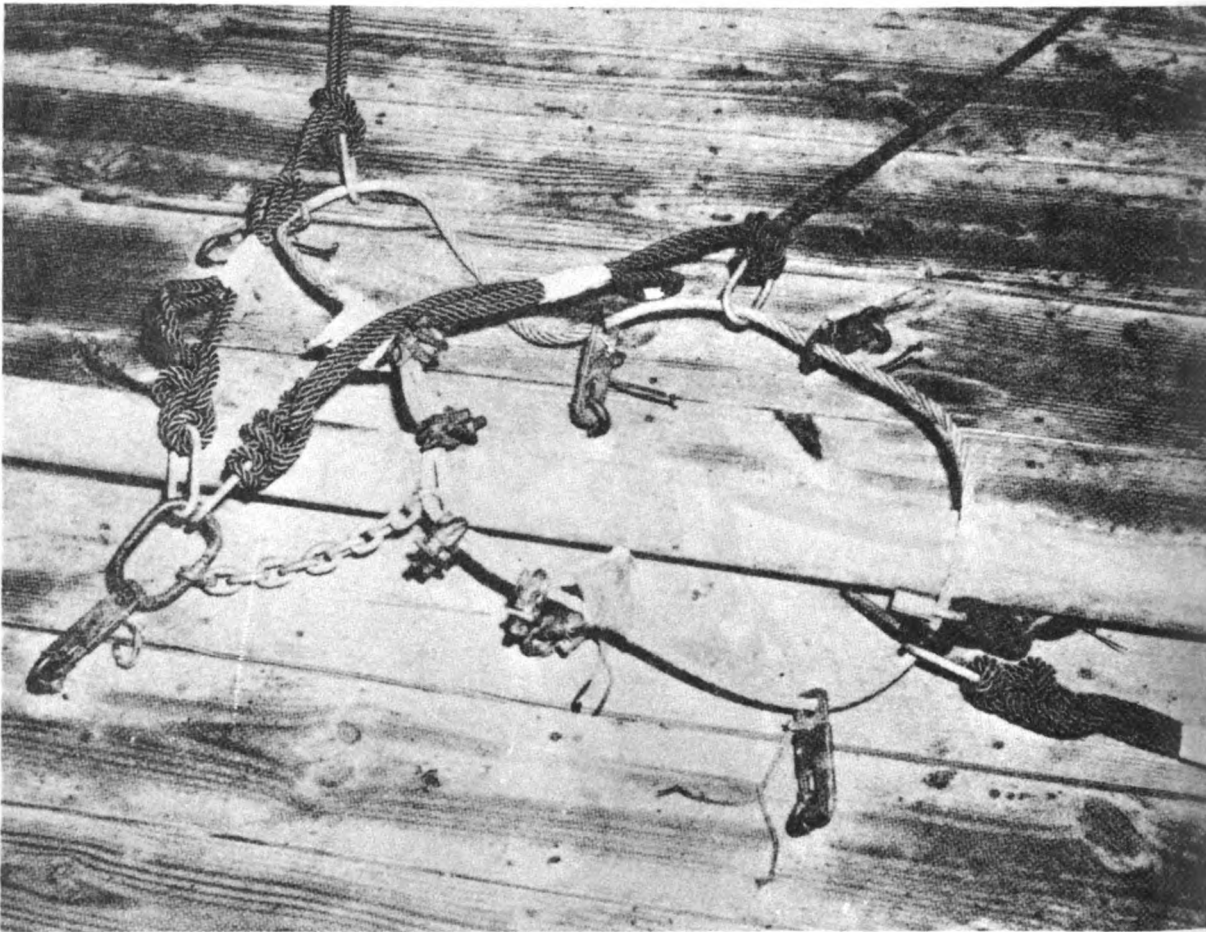
NOTE: All safety rules for tower training will be followed.

1. Adjust the rappel harness, if used, and attach the snaplink and/or rappelling ring in the proper manner. Prepare the snaplink and/or rappelling ring for both a right-handed and a left-handed rappel.



Rappel harness with rappel ring.

2. On command, "HOOK UP"--
 - a. Move to a position 3 to 4 feet from exit edge of tower. (For a right-hand rappel, move to the left side of the rope facing the donut ring; for a left-hand rappel, move to the right side of the rope.)
 - b. Face the rope and place it through the rappel ring or snaplink if there is no rappel ring.
 - c. Make one complete turn of the double rope by inserting it through the rappel ring shall snaplink twice.
 - d. Connect the rope to the donut ring and then to the floating safety ring. Insure that you have enough slack between you and the donut ring to reach the edge of the door.



Donut ring on the tower.

3. On command, "CHECK EQUIPMENT"--

a. Look toward the donut ring and pull the rope to check the anchor point connection.

b. Check the rappel harness or Swiss seat and the rappel ring or snaplink to insure rope is inserted properly.

c. Report, "Equipment Checked," and place brake hand in position behind right buttock with brake on.

4. On command, "SIT IN THE DOOR," swing legs to the outside edge of the tower and take up sitting position.



Rappeller sitting in the door.

5. On command, "DROP ROPE"--

a. Drop coiling log with rope out and away from the tower using guide hand. Insure the rope does not fall between the side of the tower and the skid gear.

b. Lean out and insure that the rope is touching the ground and is not knotted or tangled.

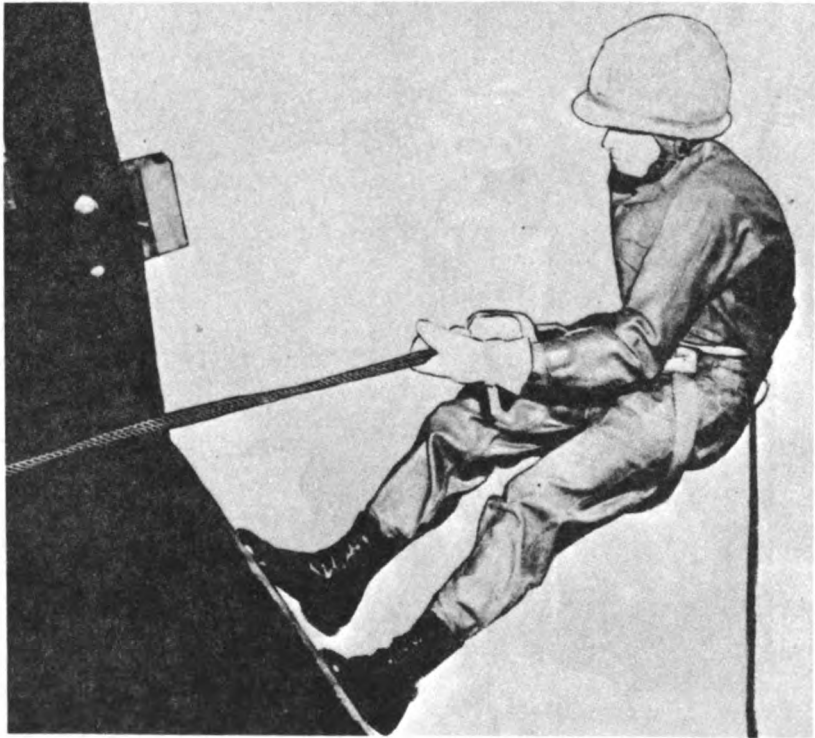
c. Report, "Rope okay."

6. On command, "POSITION"--

a. Using guide hand and the anchor end of the rope, pivot 180° on the skid gear.

b. Face the platform, feet spread shoulder width apart, balls of the feet on the tower edge, knees locked, and waist bent to form an "L" body position.

c. Conduct final visual inspection of the snaplink and rappel ring.



Rappeller's position on the tower.

7. On command, "GO"—

a. Flex knees and jump backward, letting the rope run through both brake hand and guide hand.

b. Descend by dropping 5 to 10 feet at a time. Keep feet together, legs straight, and maintain a good "L" body position. Look at the ground during descent.

c. Upon reaching the ground and backing all the way out of the rope, yell, "Off rappel," and move quickly away from the tower.

REFERENCE:

None

071-326-3050

PLAN AND CONDUCT AN AMBUSH

CONDITIONS:

You will be given a mission to conduct an ambush at a preselected site; the friendly and enemy situation in the area; 10 to 12 personnel; equipment and weapons to include ammo and demolitions required to conduct the mission; a compass; and a map, overlay, or sketch of the area.

STANDARDS:

1. Plan will include all items listed below.
2. Ambush will be conducted following plan and as indicated in paragraph 2 below.

PERFORMANCE MEASURES:

1. Plan will include--
 - a. Site of ambush.
 - (1) Making reconnaissance.
 - (2) Analyzing terrain.
 - (3) Preparing concealed positions.
 - (4) Canalizing target into killing zone.
 - b. Routes to be used to enter ambush site.
 - c. Organization of ambush; location and duties before, during, and after ambush of--
 - (1) Patrol headquarters.
 - (2) Assault elements.
 - (3) Support element.
 - (4) Security element.

- d. Equipment needed.
 - e. Camouflage required.
 - f. Occupation of site and camouflage of position.
 - g. Location of rally points and primary and alternate routes of withdrawal.
 - h. Password and countersigns.
2. Conduct of ambush.
- a. Enforce noise and light discipline.
 - b. Use signals for control.
 - c. Follow fire discipline.
 - d. Execute assigned tasks.
 - e. Withdraw to objective rallying point.

REFERENCE:

FM 21-75, Combat Training of the Individual Soldier and Patrolling,
Jul 67 (chap 16)

071-326-5501

CONTROL RATE AND DISTRIBUTION OF FIRE

CONDITIONS:

As fire team leader, while conducting any tactical mission, when fire must be placed on enemy troops or vehicles. (Tracer ammunition for the fire team leader's weapon and pyrotechnics may or may not be available.)

STANDARDS:

The fire team leader will select a method of fire control (for any situation encountered) which, when used, will let every member of his fire team know--

1. When to start/stop firing.
2. What general area to fire into.
3. How fast (rate) to fire.

PERFORMANCE MEASURES:

- | | |
|--------|---|
| NOTES: | <ol style="list-style-type: none">1. All methods and techniques for controlling team fires are dependent upon collective training of the entire team in order to be effective. The following guidance, although it is directed at the leader in order to train him in the selection of fire control methods, must be followed by team training.2. The squad/team leader must be able to have his men open fire or cease fire at the instant he desires, to adjust fire, to shift all or part of the fire from one target to another, to regulate the rate of fire, and to concentrate or distribute fire as required. For this, the team must practice methods of fire control and develop teamwork. |
|--------|---|

1. Signals for Fire Control. There are several ways to control team/squad fire. The noise and confusion of battle will limit the use of some of them. Therefore, leaders must have

more than one method and then use the method or combination of methods which does the job best.

a. Oral. This is a good method except when the leader is too far away from his men or the noise of battle makes it impossible for them to hear him.

b. Arm-and-hand signals. These are used when the troops can see their leader. All men in a rifle platoon should know and practice the standard arm-and-hand signals.

c. Pyrotechnics. In some cases, fire can be started or stopped by a smoke grenade of a specified color, or by a flare.

d. By example. The most common method a team leader uses to start his team firing and to direct their fire is by setting the example. His men hear him shoot and see where he shoots. They do the same. The leader may use tracers to help him point out targets to his men.

(1) Mark the target: By firing at the center of the target and the right and left limits of fire, if appropriate. The two fire team members on the right engage the target from center to the right limit; the two men on the left engage the left half of the target.

(2) Establish the rate of fire: The team leader establishes the rate of fire by example. His men will copy his rate of fire.

e. Prearranged event. The men can be told to start shooting when approaching enemy reach a certain terrain feature. A "commence-fire line" can be a hedgerow, a stream, a ridge, etc. This type signal helps a unit deliver surprise fire on the enemy.

2. Fire Distribution. Fire distribution is the quickest and best way to get fire on all parts of a target. Fire must be distributed to keep all parts of target under suppressive fire. Fire team leaders put fire on targets or target areas so that the enemy, whether visible or not, is kept under fire. A squad SOP may call for the left fire team to engage the left half of a linear target or the front half of a column target. This makes sure that the whole target is engaged, not just those enemy soldiers nearest the squad firing. To maximize effectiveness of team fires—

a. Engage any exposed enemy personnel.

b. When enemy personnel are not exposed—

(1) Engage any visible enemy positions at the probable firing points (e.g., bunker ports and doors, top front edge of trenches, windows, doors, and firing loopholes in buildings).

(2) Engage probable battlefield positions (base of trees, stumps, bushes—anything you would use for cover if you were in his situation).

3. Rate of Fire. The rate of fire for the fire team should be increased until enemy fire is noticeably reduced or stopped. The rate of fire should then be held at that level until the enemy positions can be occupied or destroyed or, in the defense, the enemy attack can be repulsed.

REFERENCE:

TEC Lesson 020-071-1051-F, Control Rate and Distribution of Fire

071-326-5505

PREPARE AND ISSUE AN ORAL SQUAD
OPERATION ORDER

CONDITIONS:

In a field environment, given an infantry squad, a platoon offensive or defensive operation order, and any available pocket-size reference (such as The Infantry Leader's Reference Card, GTA 7-1-27).

STANDARDS:

1. Within the time allotted, develop a clear and concise oral squad order for the offense, or defense, and issue it to your squad. The order must be issued so that each soldier understands his mission and any specific coordinating instructions.

2. As a minimum, a defensive order must contain the following items:

- a. The mission of the platoon.
- b. The mission of the squad.
- c. Location of the defensive position.
- d. Scheme of maneuver.
- e. Type of emplacements and work priority.
- f. Plan for maintaining local security.
- g. Critical signal instructions.
- h. Location of squad leader's position and platoon command posts.

3. As a minimum, an offensive order must contain the following items:

- a. The mission of the platoon.
- b. The mission of the squad.

c. The concept of how the battle will be fought, to include--

- (1) Location of the objective.
- (2) Time of attack.
- (3) Location of the LD or LD/LC.
- (4) Location of the assault position.
- (5) The order and the route of march.
- (6) Consolidation instructions.

d. Critical signal instructions.

e. Location of the platoon leader and squad leader during the attack.

PERFORMANCE MEASURES:

1. Receiving an Operations Order. The most important part of receiving an order is a clear understanding of what your unit has to accomplish in relation to the ground and to the other platoons or squads. Unless you know exactly what you are supposed to do, what the other units are doing, and where and when these actions are to be done, your chances of success are greatly reduced. After hearing the entire order, don't leave until all of your questions have been answered.

THINK-THROUGH THE ORDER

As soon as you receive the order and understand the leader's plan, take a few minutes to go over the notes you took. As you think about the order, answer these questions:

What MISSION(S) did I receive?

How much do I know about the ENEMY?

How does the TERRAIN and WEATHER influence the operation?

What SUPPLIES or EQUIPMENT do I need? Do I need to assign SPECIAL TASKS to anyone?

a. Mission. In analyzing your mission, identify exactly what your unit is to accomplish. Be sure you know how much time

you have to prepare. Make sure you are aware of any restrictions or special tasks that apply to your platoon or squad.

A thorough understanding of the mission will allow you to establish a time schedule for your preparation. You will be told what time the operation is to begin and what time your unit must be ready to go. This allows you to allocate time to prepare for the mission. Identify the things that must be done to get ready and, working backwards from the "ready" time, allow your men time to accomplish each task. This technique is called the reverse planning sequence. Here is how it might work for a squad leader.

1415:	Inspect assembly area.
1400:	Inspect squad.
1315:	Issue order to squad.
1300:	Finalize squad order.
1200:	Reconnoiter with platoon leader/receive order.
1100:	Issue warning order to squad.
1040:	Receive platoon warning order.

b. Enemy. Develop the best picture of exactly where the enemy is located, what his strength is, and what kind of weapons and equipment he has. Tell your men as much as you know about how to destroy or suppress the kind of enemy you are likely to meet.

Sometimes the enemy in a certain area will use the same pattern over and over. For example, if you know that the enemy habitually ambushes in the vicinity of trail junctions, make sure that all of your men know about it.

c. Terrain and weather. Most decisions pertaining to route, objective, sectors of fire, positioning of key weapons, movement techniques, etc., are made by the platoon leader. However, both platoon and squad leaders must study every bit of ground if they are to properly employ their men and equipment and gain an advantage over the enemy. Proper use of terrain will—

Provide cover and concealment before, during, and after the battle.

Increase the effectiveness of your fire.

Decrease the effectiveness of the enemy's weapons.

You must also understand how weather can influence your men. Cold, heat, rain, or snow can create problems if you don't prepare your squad properly.

d. Supplies, equipment, and special tasks. Look at your unit in light of the mission you are to accomplish. If you have been given a task that requires a special skill, such as setting demolitions to blow a building, do you know how to do it? Do you have the right kind of weapons, equipment, and supplies? If you feel you need help, or if you need something you don't have, tell your leader/commander.

2. Issuing an Operation Order. After you have received an operation order, thought it through, and prepared your own order, you must issue that order. Whenever possible, platoon leaders should issue their orders from a position that allows the squad leaders to see the ground on which they are going to operate.

Squad leaders should also try to issue their orders from vantage points that overlook the terrain. However, many times this will not be possible, and they will have to sketch the terrain on the ground. Terrain models are easy to construct and allow the leader to associate his order with terrain features so that each man will have an idea of what to expect once he gets on the actual terrain.



3. The Operation Order. An operation order is nothing more than the presentation of the information and instructions needed to accomplish a specific mission. The amount of detailed information included in your operation order depends on the information you received and the time you have to prepare.

Below is an example of how you can organize your order to insure that you tell your platoon or squad everything they need to know to perform the mission you were given. The purpose of this format is to help you prepare your order. Use it as a checklist and remember that it is a guide. Give your order in language that your men can understand. For example, you may prefer to say, "Here's how we are going to get the job done," rather than "Execution."

SITUATION

Information on enemy and friendly forces to include the mission and intended actions of at least the next higher headquarters and unit on your left and right.

MISSION

What your unit (platoon or squad) is to accomplish.

EXECUTION

Your tactical plan for accomplishing the mission.

Tasks (missions) of each squad (the platoon order) or of teams and individuals (the squad order).

SERVICE SUPPORT

Administrative information to include the plans for ammunition, resupply, casualty evacuation, and rations.

COMMAND AND SIGNAL

Signals and other control measures to be used during the operation.

Where you will be during the operation and where the next higher leader will be.

REFERENCE:

FM 7-7, The Mechanized Infantry Platoon and Squad, Sep 77 (chap 2, sec III, pages 2-11 thru 2-18)

071-326-5610

**IMPLEMENT INFANTRY SQUAD MOVEMENT
TECHNIQUES WHEN NOT IN CONTACT
WITH THE ENEMY**

CONDITIONS:

As the squad leader of an infantry squad, given an operation order to conduct movement (movement to contact, reconnaissance patrols, etc.). During the movement, enemy contact is "not likely," "possible," or "expected," at any given time.

STANDARDS:

1. Employ the correct movement technique, based upon the likelihood of contact and your mission.
2. Insure proper distances are maintained between fire teams and individuals so that contact is made with the smallest force possible, and one fire team is available to support the other at all times.
3. Maintain a position that allows you to best control squad.

PERFORMANCE MEASURES:

1. Your squad will spend far more time moving than actually fighting. This fact alone makes it important to use the best movement techniques, but an even more important reason for proper movement is that a carelessly moving unit usually makes contact with the enemy at a time and place of the enemy's choosing. You must use movement techniques which will cause contact to be made by the least number of men, with the rest of the squad in the best position to provide suppressive/supportive fires and to maneuver and close in on the enemy.

2. The choice of movement technique is based on the likelihood of contact.

LIKELIHOOD OF CONTACT		MOVEMENT TECHNIQUE
1	<i>Not likely</i>	<i>Traveling</i>
2	<i>Possible</i>	<i>Traveling Overwatch</i>
3	<i>Expected</i>	<i>Bounding Overwatch</i>

NOTE: When conservation of time is vital to mission accomplishment, movement techniques may be selected based on speed rather than likelihood of contact. Movement techniques are not fixed formations. Distances between squads vary based on the terrain and visibility. As the terrain becomes more rugged, as the vegetation becomes dense, or if visibility is reduced, the distances between squads are reduced. Squad leaders maintain visual contact with the squad to their front. One man in each squad maintains visual contact with the squad to the rear. The platoon should be able to move most of the time using arm-and-hand signals for control.

3. When your squad is moving, you should--

a. Use the TRAVELING technique when speed is necessary and contact with the enemy is not likely. ONE FIRE TEAM FOLLOWS THE OTHER, keeping about 20 meters apart, depending on the terrain. When traveling, the best location for the squad leader normally is with the lead team to aid navigation, movement, and control (fig. 1).

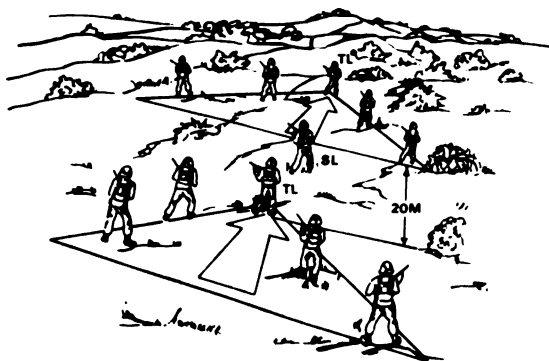


Figure 1. Traveling technique.

b. Use the TRAVELING OVERWATCH technique when chance of enemy contact is possible, but not expected. Caution is justified but speed is desirable. The trailing team drops behind the lead team about 50 meters and is prepared to support the lead fire team. If the lead fire team receives fire, the trailing team is far enough to the rear so it will probably not be suppressed by the same enemy fire, yet close enough to fire and/or maneuver in support of the lead team (fig. 2).

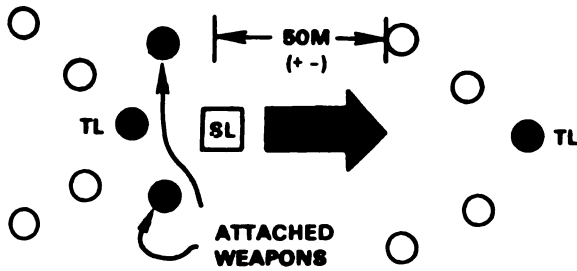


Figure 2. Traveling overwatch technique.

When using traveling overwatch, the leader goes where he can best control his squad in the event of contact. Normally, this is with the trailing team, keeping any attached weapons near himself and under his direct control. This follows the rule of using the least number of men to find the enemy and enhances his ability to support the lead team by fire and to influence the situation. As an exception to his normal location with the trail team, the squad leader may temporarily accompany the lead team when conditions so dictate, such as when limited visibility precludes good control of the squad from the trail team's position.

c. Use the BOUNDING OVERWATCH technique when contact is expected. One fire team advances while the other team is in a good position ready to suppress enemy fires. The key to this movement is the proper use of terrain. ALL MEN IN THE SQUAD MUST MAKE USE OF ALL COVER AND CONCEALMENT. The chance of exposure to the enemy must be avoided. A bound is normally not more than 100 to 150 meters forward of the overwatch team (fig. 3).

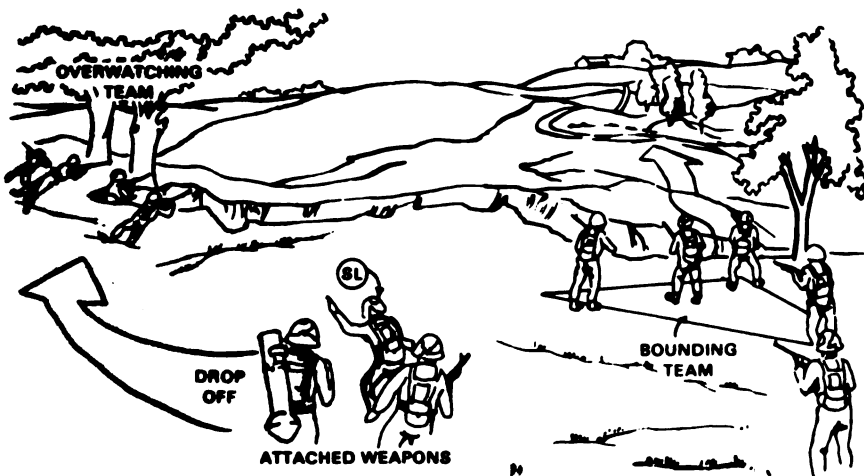


Figure 3. Bounding overwatch technique.

THE SQUAD LEADER MUST ISSUE CLEAR, CONCISE ORDERS. He must insure that the bounding team leader knows (at least) where his team is to move and by which route, what to do when he gets there, the location of the squad leader and the overwatch team, and how he will get his next instructions. The squad leader must insure that the overwatch team leader knows (at least) the route and destination of the bounding team. During movement by bounding overwatch, the squad leader must go where he can best control the squad. He may move from one fire team to another. Normally, he will join the overwatching team as the bounding team passes it. In so doing, he normally takes any attached weapon(s) with him. When with a bounding team, the squad leader must not mask the fire of, or interfere with, the movement of the team he joins or leaves. He normally locates himself to the rear and on a flank which facilitates his dropoff to the fire team being passed.

4. When using any of these techniques, the squad leader's knowledge of the proper use of available cover and concealment for the entire squad is essential. Even the best technique applied to the least favorable route can lead to disaster. In addition, intervals between fire teams are important for more than just control. A fire team caught and pinned down by enemy fire will probably never walk away from that spot if the other team cannot immediately suppress that enemy fire. To facilitate control, it is essential that the squad function as a team. Every member must have confidence in the squad leader and in their ability to do the job. Practicing these techniques correctly in training will provide the teamwork needed to fight and survive on the battlefield.

REFERENCES:

071-326-5611

DIRECT THE FIRE AND MANEUVER OF AN
INFANTRY SQUAD AGAINST AN ENEMY POSITION

CONDITIONS:

You are the squad leader of a squad that has just encountered an enemy position.

STANDARDS:

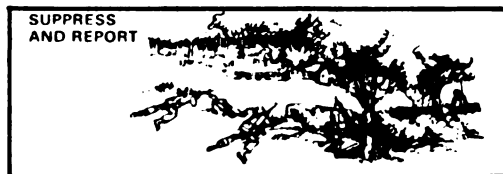
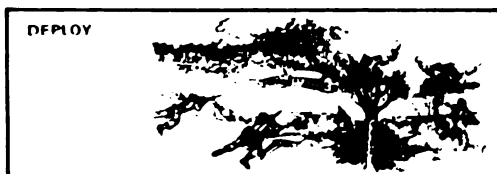
1. Fix the enemy with all available suppressive fire to keep him from firing his weapons accurately and redeploying his force to meet your assault.
2. Fight the enemy by locating and assaulting his flank, rear, or other weak point.

PERFORMANCE MEASURES:

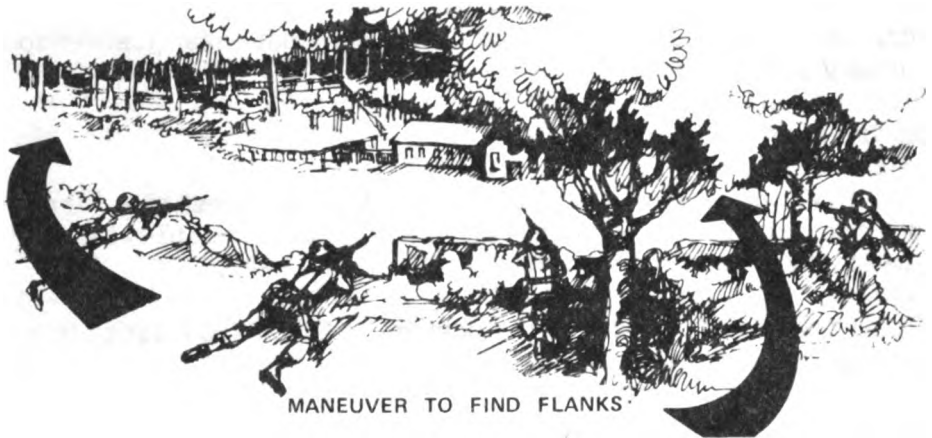
1. Actions on contact. When contact is made with an unexpected enemy, locate and exploit enemy weaknesses without needlessly exposing the squad to enemy fire. When contact is made, take the following actions:

DEPLOY, SUPPRESS, AND REPORT

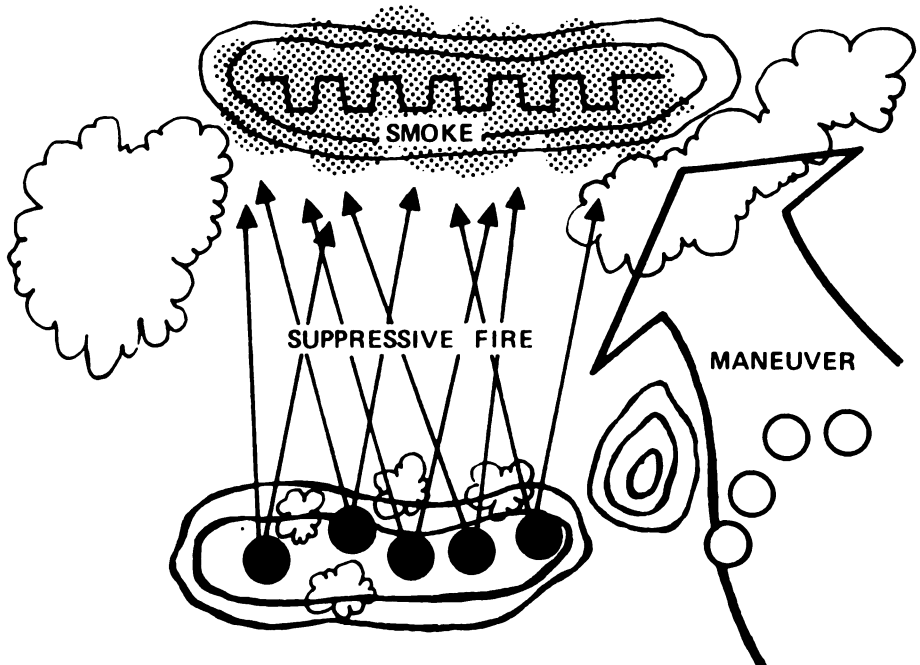
Lead elements DEPLOY in positions from which they can fire, observe, or maneuver against the enemy. If elements in contact receive direct fire, they immediately SUPPRESS enemy weapons. If you have located the enemy, but do not receive fire, then hold your fire until friendly elements are in the best position to engage the enemy. You immediately REPORT the enemy contact to the platoon leader in as much detail as is available, and continually update reports.



2. Determine Enemy Location, Disposition, and Strength. Squads gain additional information not revealed by the initial contact by careful maneuver against the enemy to determine his flanks or weak points. This process of fighting through enables the unit to continue to advance against the enemy without undue risks. If the initial contact reveals an enemy who is clearly superior, don't risk maneuvering against him, but hold in place, return fire, and serve as a base of fire for the platoon.



3. Choose a Course of Action. The squad leader must decide whether to assault the enemy, or hold in place and return fire. Of course, you may be given another course of action by your platoon leader.



4. Fixing the Enemy. To close with the enemy, the assaulting force must reduce the effects of his fire. This is accomplished either by blocking the enemy's vision by smoke or by shooting at him with sufficient accuracy and volume to drive him from his firing position. In either case, the enemy will probably continue to fire, but the fires will be inaccurate and cannot be redirected effectively against the maneuver force. When the enemy is suppressed, you can maneuver toward his positions without taking excessive casualties. The assaulting force always attempts to concentrate against the enemy flank, rear, or other weak points. The enemy is normally aware of any weak points and will reinforce them when he realizes that you intend to assault them. Use fire to fix the enemy so he cannot reinforce these weak points. This may be accomplished by suppressive fire. However, while smoke and direct fire may effectively suppress an enemy, they will not keep him from redeploying along an interconnecting trench system. To stop this movement, airburst indirect fires are required. Each situation will be different. Remember, the enemy must be FIXED BY SUPPRESSIVE FIRE.

5. Fighting the Enemy. The squad may have to fight the enemy either on open or restrictive terrain.

a. Open terrain. In open terrain, there are no significant natural or manmade features which severely restrict the fire or maneuver of the squad. An example is a sparsely vegetated area where a squad or platoon may assault using FIRE and MANEUVER. Elements of the squad and platoon alternate as fire support and maneuver elements as they close with the enemy.

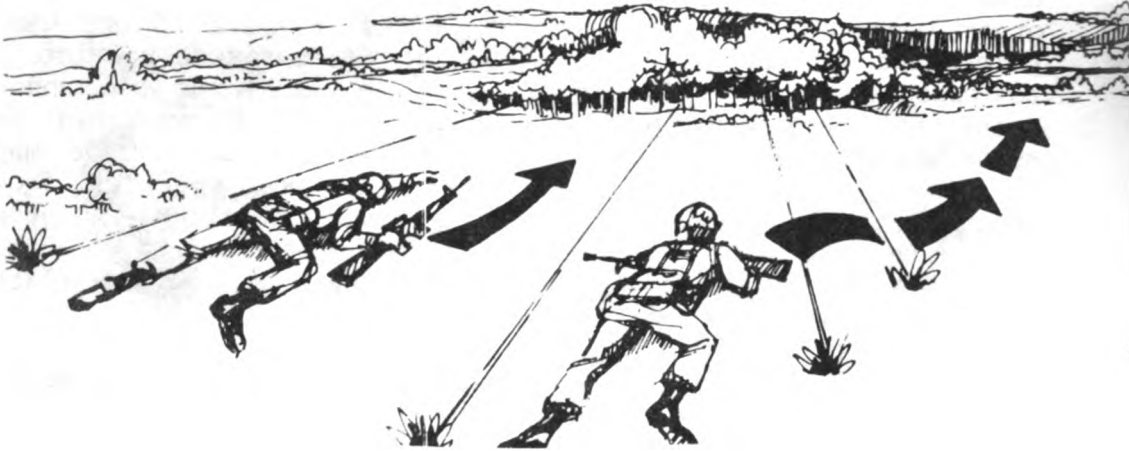
b. Restrictive terrain. Restrictive terrain is significant natural or manmade features which will severely restrict the fires or maneuver of the squad. These areas include fortified areas, barbed wire or mined areas, built-up areas, and extremely rugged terrain. In restrictive terrain, platoons and squads normally task organize into--

(1) ASSAULT ELEMENT. To close with and destroy the enemy.

(2) SUPPORT ELEMENT. To suppress and fix the enemy by fire.

(3) BREACHING ELEMENT. To clear or mark a path through enemy obstacles or blow holes in walls for the assault element (if required).

6. Assault Techniques. The squad moves forward as rapidly as possible by crawling, by short rushes, or by employing rushing fire. The fire team leader moves by the best method for the situation facing him, and the fire team members follow his example using every advantage offered by the terrain.



a. Crawling may be required when the fire team faces intense enemy fire and has little cover. Individuals use either the low or high crawl, depending upon their individual situation, the requirement for speed, and the example of their fire team leader. This method is slow, but reduces exposure to enemy observation and fire. Individuals must place fire on the enemy to suppress him when not moving forward. If necessary, the members of the squad may advance all the way into and through enemy positions using the crawl method.

b. Short rushes may be used when available cover permits. Fire and maneuver can be conducted using this method by individuals or fire teams. Assaulting fire teams or individuals may advance by short (2 to 3 second) rushes to avoid accurate enemy fire.



c. Rushing fire is rarely used. It should be used only under the following conditions:

(1) When the squad is receiving a heavy concentration of indirect fire and immediate and decisive movement is necessary to prevent its annihilation.

(2) When the complete lack of cover and concealment prohibits another course of action.

(3) When the squad is not receiving fire.

The squad uses rushing fire by standing up and moving directly to the enemy position as quickly as possible. This does not mean a parade field "dress right dress" configuration, but rather a staggered line allowing enough lateral clearance between men to allow them to deliver effective fire to their front. Movement must be rapid and accompanied by a heavy volume of fire. The assault should be conducted over a short distance that can be covered quickly and concentrated where the enemy's defense may be quickly overrun.

7. Control of Fire. It is vital that fires be heavy enough to suppress the enemy. It would be fatal, however, to allow this suppressive fire to consume all of a squad's ammunition before an assault is made or a possible counterattack is dealt with. Rigid control of fires must be exercised to insure that a steady rate of fire is maintained throughout the assault.

Maximum use should be made of supporting fires such as artillery, mortars, and gunships. Rapid redistribution of ammunition upon the immediate objective will enable a squad to fight off a counterattack or continue the attack on order.

8. Teamwork and Control. A squad without teamwork and control is nothing more than a small mob with weapons. Success depends on the level of these two virtues within the squad. Methods of control are normally established by SOP. These may include arm-and-hand signals, oral commands, whistles and other sound devices, pyrotechnics, and "do as I do" techniques. Once methods are established, training and practice develops the necessary teamwork. This training should cover reaction to as many different battlefield situations and conditions as possible. Even in the event that a member of the squad loses contact with his squad leader and team leader, it is better that his intense training exert control over him by reminding him what he was taught to do in the past, than it would be for him to improvise his actions alone. It is the squad leader's responsibility to obtain and maintain the control and teamwork of his squad in all situations.

REFERENCE:

071-326-5705

ESTABLISH AN OBSERVATION POST (OP)

CONDITIONS:

You are a squad leader or platoon sergeant in a defensive position, given a squad or platoon, all assigned TOE equipment, a TA-312/PT (or TA-1/PT) and/or a radio, and a requirement to establish an OP to observe a designated area or probable avenue of approach forward of or on the flanks of your squad or platoon.

STANDARDS:

Upon moving into the assigned defensive position, you will select and emplace a two-man position which:

1. Is within effective small arms range of the squad/platoon.
2. Allows detection of enemy activity within the designated area or avenue of approach before it would be detectable from the defensive positions and before the enemy could detect the defensive area.
3. Has a means of communication (wire or radio) with the platoon leader (may be through the squad leader).

PERFORMANCE MEASURES:

1. General. OPs are generally established along probable avenues of approach to listen and observe and provide early warning of enemy approach.

2. Selection of an Observation Post (OP).

a. The site selected for an observation post should provide:

(1) Maximum observation of the desired area (specified by the platoon leader).

(2) Cover and concealment for the occupants of the OP.

(3) Concealed routes to and from the OP.

b. Observation is the primary means of determining whether or not the above conditions exist at a site.

c. Usually, the best location for an OP is on or near the military crest of a hill. Topographical crests should be avoided because of the possibility of being skylined. It may be appropriate to establish the OP well down the forward slope when observation is restricted by the terrain (fig. 1).

d. Observation posts and listening posts should be within effective small arms range of unit establishing OP and supported by other supporting fires when possible.

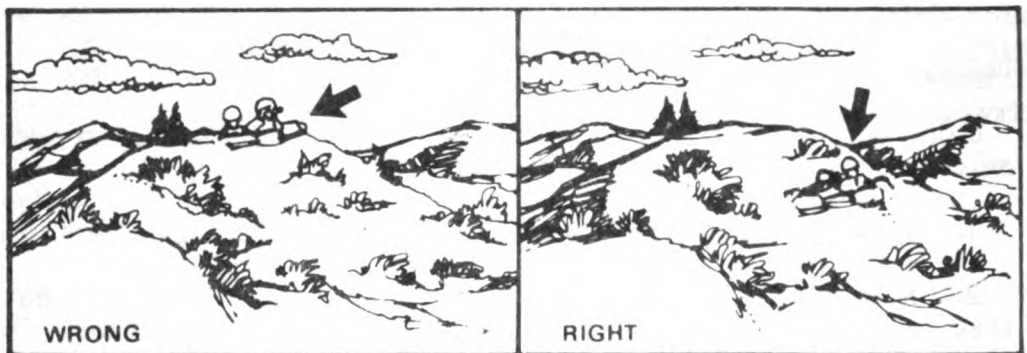


Figure 1

3. Establishing and Operating an Observation Post.

a. Wire is the primary means of communication with an OP and is supplemented by radio. Wire and radio antennas should be carefully positioned and camouflaged to avoid detection by the enemy (fig. 2).



Figure 2

b. Personnel going to and from the OP must move carefully so that movement does not reveal the location to the enemy. Separate routes to and from the OP are established. Camouflage is most important on an OP. The OP should be camouflaged even when natural concealment is adequate.

c. OPs are operated in reliefs. A minimum of two men is necessary for each relief. One observes while the other records and reports observed information. The observer and recorder should switch duties every 30 minutes because the visual efficiency of an observer decreases rapidly after that length of time.

4. Establishing and Operating an Observation Post (OP) During Limited Visibility.

a. This OP is a position from which you listen and observe during periods of limited visibility (darkness, smoke, or bad weather). The enemy may use different, more open avenues of approach during limited visibility conditions; therefore, an OP may have to be moved to another position to serve as an OP at night.

b. These types of OPs are usually closer to defensive positions. You may be given a night-vision device for use on your OP. The enemy employs infiltrators against your defense at night, so a series of competent OPs is your best security. OPs backed up by alert troops equipped with night-vision devices and by snipers can counter this infiltration.

c. OPs are operated in reliefs except when movement to and from positions would reveal their locations or endanger the personnel.

REFERENCE:

FM 21-75

071-329-1001

**IDENTIFY TERRAIN FEATURES (NATURAL AND
MANMADE) ON THE MAP**

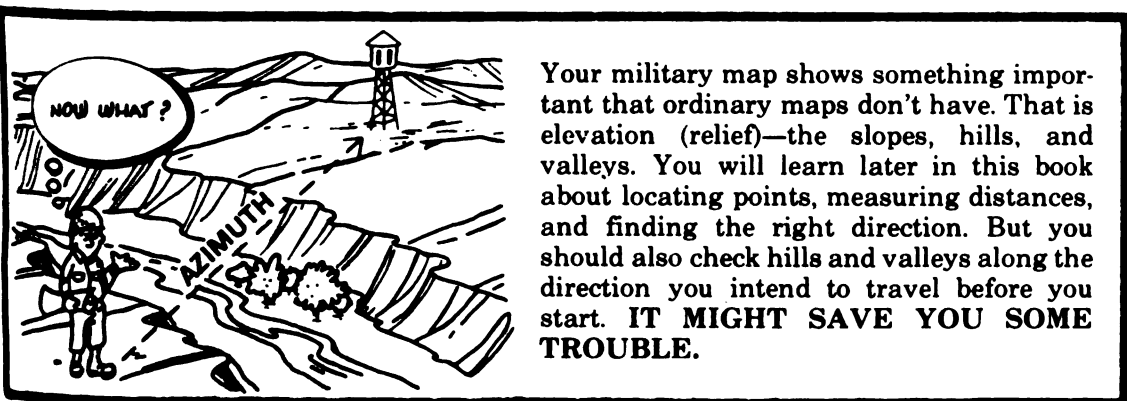
CONDITIONS:

Given a standard 1:50,000 scale military map which includes examples of one or more of each of the natural features identified in 1 through 5 below, and which has examples of the use of colors to identify classes of features as in 6 through 10 below:

- | | |
|---------------|----------|
| 1. Hilltop | 6. Black |
| 2. Ridge | 7. Blue |
| 3. Valley | 8. Green |
| 4. Saddle | 9. Brown |
| 5. Depression | 10. Red |

STANDARDS:

Within 3 minutes, identify one of each type terrain feature marked on the map given to you by your supervisor.

PERFORMANCE MEASURES:

1. To identify terrain features, refer to figure 1.
2. Colors used to identify a class of features.
 - a. Black—The majority of cultural or manmade features.
 - b. Blue--Water features such as lakes, rivers, and swamps.
 - c. Green--Vegetation such as woods, orchards, and vineyards.
 - d. Brown--All relief features such as contour lines.
 - e. Red--Used to classify manmade features as to their type or use; e.g., main roads, built-up areas, and special features.

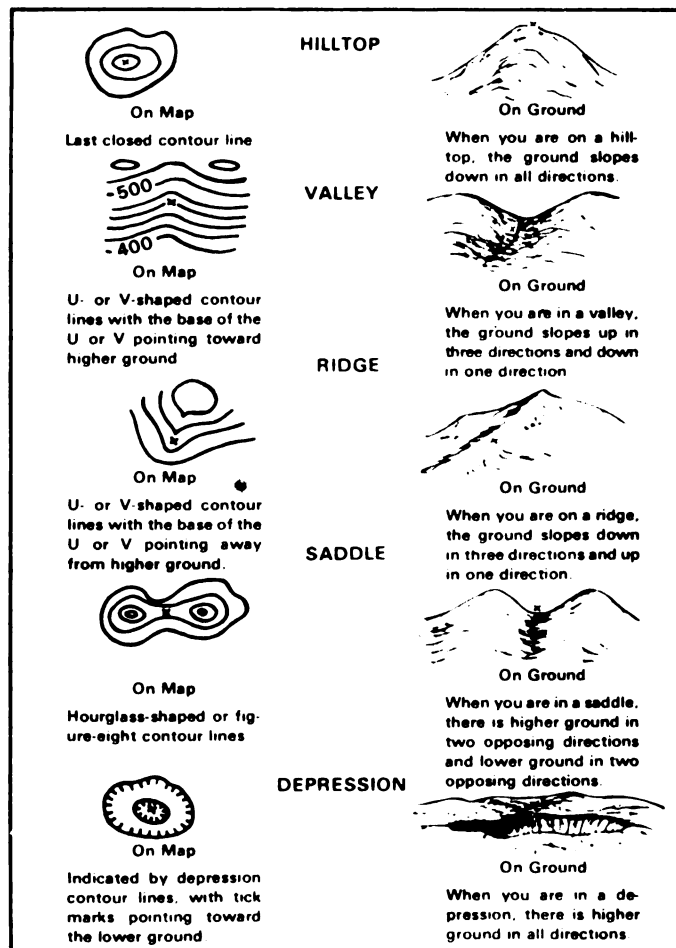
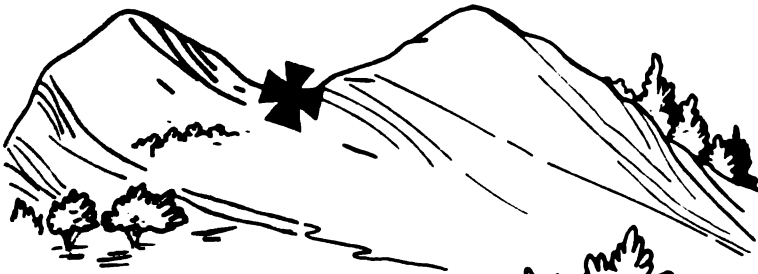
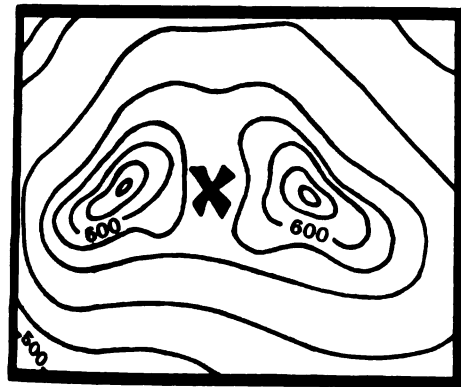


Figure 1

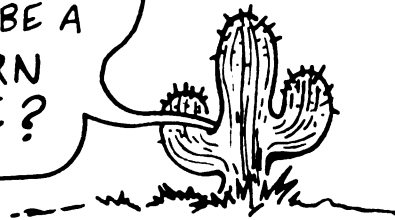
NOTE: Occasionally, other colors may be used to show special information. These will be indicated in the marginal information on the map.



Sometimes contour lines show two hilltops fairly close together. The lower terrain between the two hilltops is called a **SADDLE**. Going through a saddle is sometimes the easiest route to use to get beyond the two hills. Of course, you wouldn't go through a saddle if the enemy was on the hills.

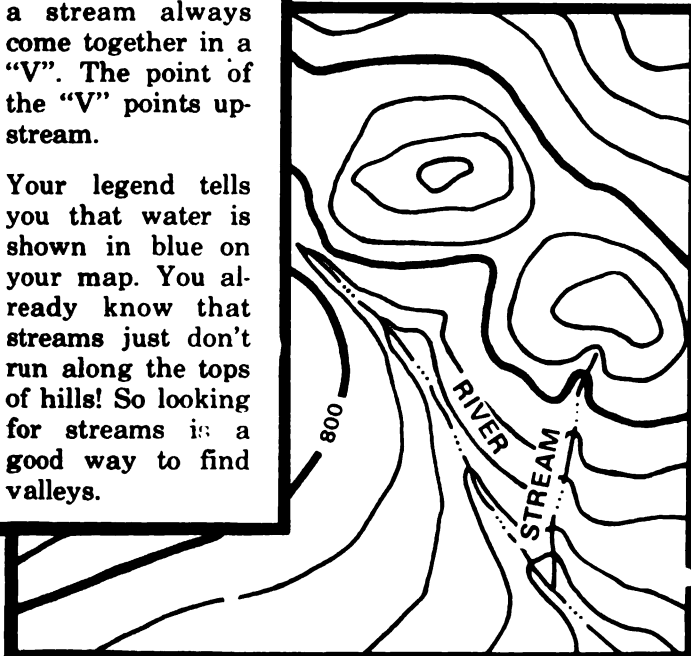


IF IT WAS IN
CALIFORNIA —
WOULD IT BE A
WESTERN
SADDLE?

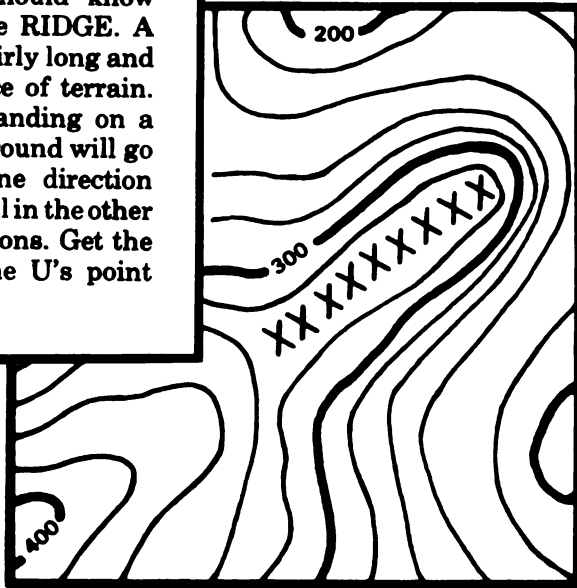


Contour lines across a stream always come together in a "V". The point of the "V" points upstream.

Your legend tells you that water is shown in blue on your map. You already know that streams just don't run along the tops of hills! So looking for streams is a good way to find valleys.



Another terrain feature that you should know about is the RIDGE. A ridge is a fairly long and narrow piece of terrain. If you're standing on a ridge, the ground will go uphill in one direction and downhill in the other three directions. Get the picture? (The U's point downhill.)



REFERENCES:

FM 21-26, Map Reading, C1, Jan 69

TC 21-26, Don't Get Lost

TEC Lesson 930-071-0013-F, Introduction to Land Navigation

TEC Lesson 930-071-0016-F, Terrain Features

071-329-1002

DETERMINE THE GRID COORDINATES OF A POINT ON A MILITARY MAP USING THE MILITARY GRID REFERENCE SYSTEM

CONDITIONS:

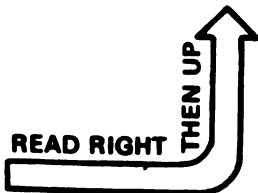
Given a standard, 1:50,000 scale military map, a 1:50,000 grid coordinate scale, a pencil and paper, and a point on the map which is labeled for identification (for example, Point A).

STANDARDS:

Within 2 minutes, determine the six-digit grid coordinates for a point to within 100 meters (grid coordinates must be preceded by the correct two-letter 100,000-meter-square identifier).

PERFORMANCE MEASURES:

To keep from getting lost in the boonies you have to know how to find your location or your address. There are no street addresses in a combat area, but the military map can spot your location accurately. It has black lines running up and down (north and south) and crosswise (east and west). They form small squares called grids. These lines are numbered along the outside edge of the map picture. Using these numbers you can name each square.



NO TWO SQUARES HAVE THE SAME NUMBER! TO GET THE CORRECT NUMBER FOR A CERTAIN GRID SQUARE, FIRST READ FROM LEFT TO RIGHT ALONG THE BOTTOM AND FIND THE LINE THAT BORDERS YOUR GRID SQUARE ON THE LEFT. THEN READ UP AND FIND THE EAST-WEST LINE THAT BORDERS YOUR GRID SQUARE ALONG THE BOTTOM.

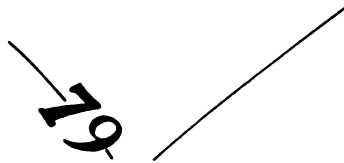
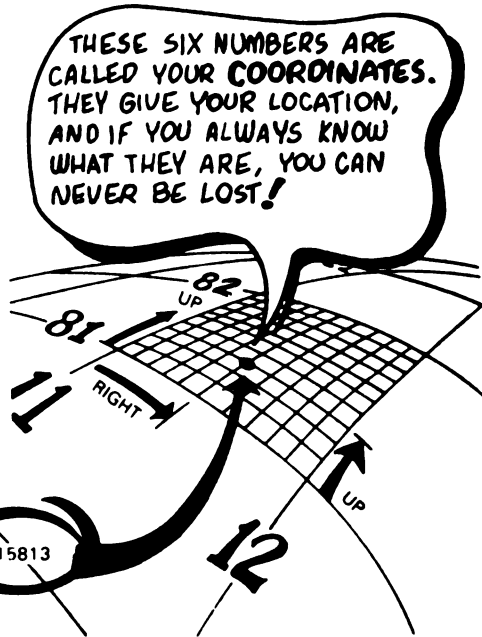
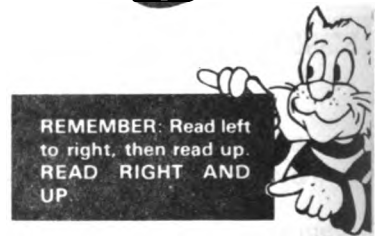
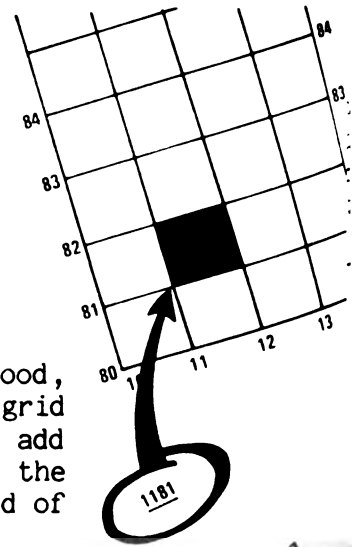


Look at the picture. Your address is grid square 1181. How do you know this? Start from the left and read RIGHT until you come to 11, the first half of your address. Then read UP to 81, the last half. Your address is somewhere in grid square 1181.

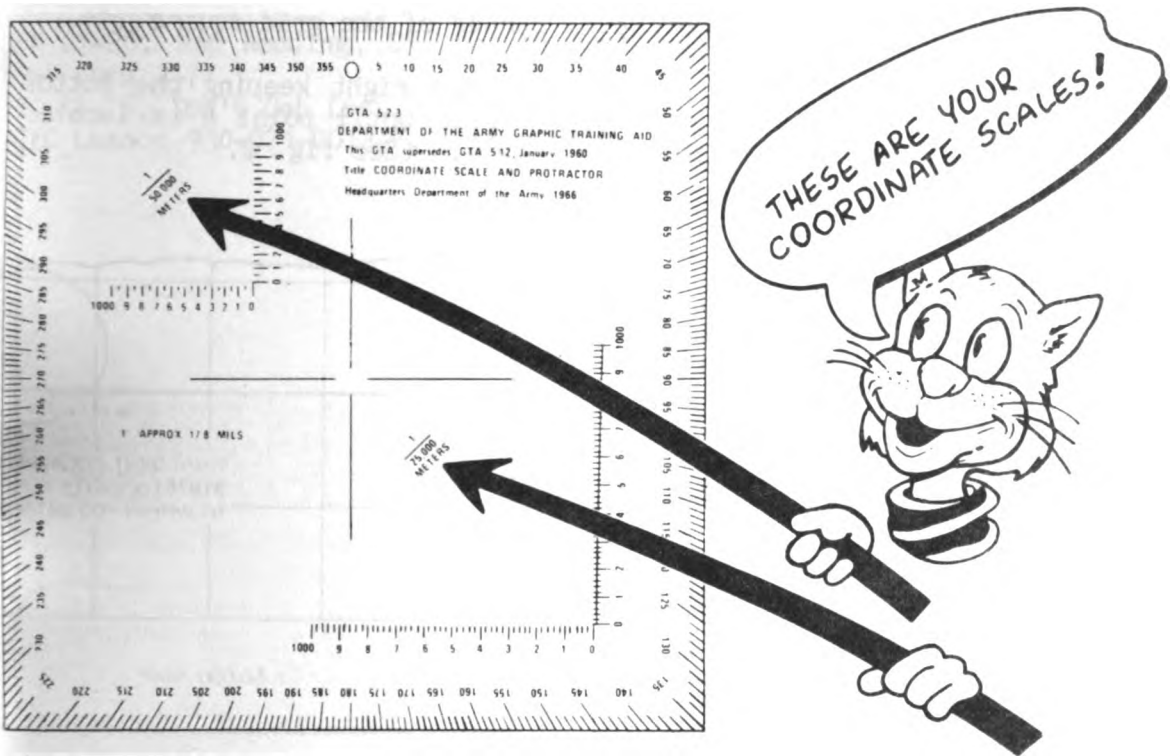
Grid square 1181 gives your general neighborhood, but there is a lot of real estate inside that grid square. To make your address more accurate just add another number to the first half and another to the last half—so your address has six numbers instead of four.

Here's how to get those extra numbers. Pretend that each grid square has ten lines inside it running north and south, and another 10 running east and west. This makes 100 smaller squares. You can estimate where these imaginary lines are.

Suppose you are halfway between line 11 and line 12. Then the extra number is 5 and the first half of your address is 115. Now suppose you are also 3/10 of the way between line 81 and line 82. Then the second half of your address is 813. (If your were exactly on line 81, the second part would be 810.) The picture shows that if you were located where the dot is in grid square 1181, then your address would be 115813.



If you have this little device, you don't have to worry about estimating exactly where you are inside a certain grid square. You don't have to use imaginary lines, because you can come up with your exact coordinates.



This is a coordinate scale and protractor. It helps you measure small distances inside grid squares. You can also measure angles with it. The coordinate scale and protractor is nothing more than a square piece of clear, thin plastic. It is usually called just a "protractor" for short. Here's how to determine the six-digit grid coordinates of a point on a map using a protractor.

1. First locate the grid square in which point A is located (point A should already be plotted on the map). (See fig. 1.)

2. The number of the vertical grid line on the left (west) side of the grid square is the first and second digits of the coordinate.

3. The number of the horizontal grid line on the bottom (south) side of the grid square is the fourth and fifth digits of the coordinate.

4. To determine the third and sixth digits of the coordinate, place the grid coordinate scale on the bottom grid line of the grid square in which Point A is located.

5. Check to see that the zeros of the coordinate scale are in the lower left-hand (southwest) corner of the grid square.

6. Slide the coordinate scale to the right keeping the bottom of the scale on the bottom grid line until point A is located under the vertical (right-hand) scale. (See fig. 2.)

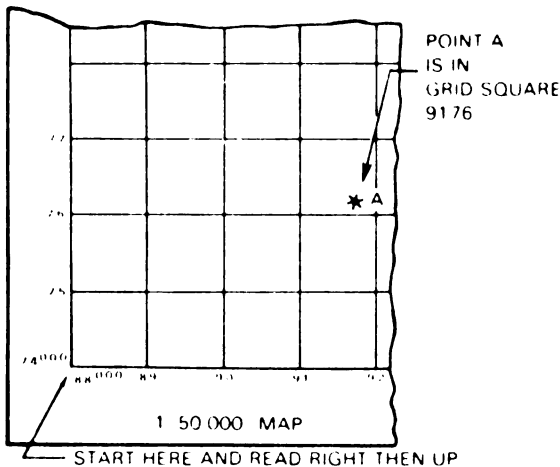


Figure 1

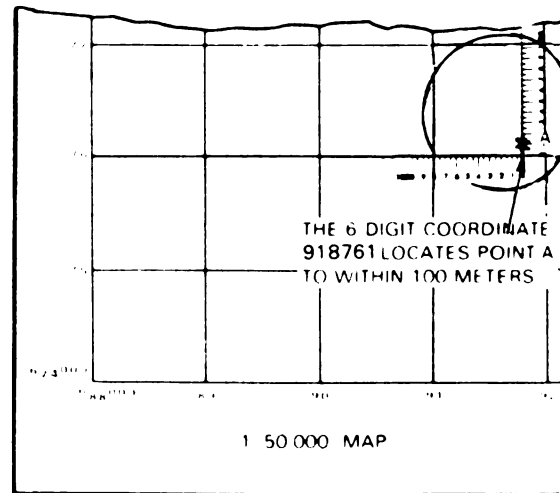


Figure 2

7. The 100-meter mark on the bottom (horizontal) coordinate scale which is nearest the north-south grid line represented by the first and second digit of the coordinate to be determined is the third digit.

8. The 100-meter mark on the right-hand (vertical) coordinate scale which is nearest point A is the sixth digit.

9. Write the six-digit coordinate on the paper provided.

10. Determine the correct two-letter 100,000-meter-square identifier by looking at the grid reference box in the margin of the map.

11. Place the 100,000-meter-square identifier in front of the six-digit coordinate.

NOTE: As an alternate training method to improve mapreading ability, start with a six-digit coordinate and plot the point on the map.

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 3, pages 3-8 thru 3-20, para 3-4 thru 3-7)

TC 21-26, Don't Get Lost

TEC Lesson 930-071-0013-F, Introduction to Land Navigation

071-329-1003

DETERMINE A MAGNETIC AZIMUTH USING A COMPASS

CONDITIONS:

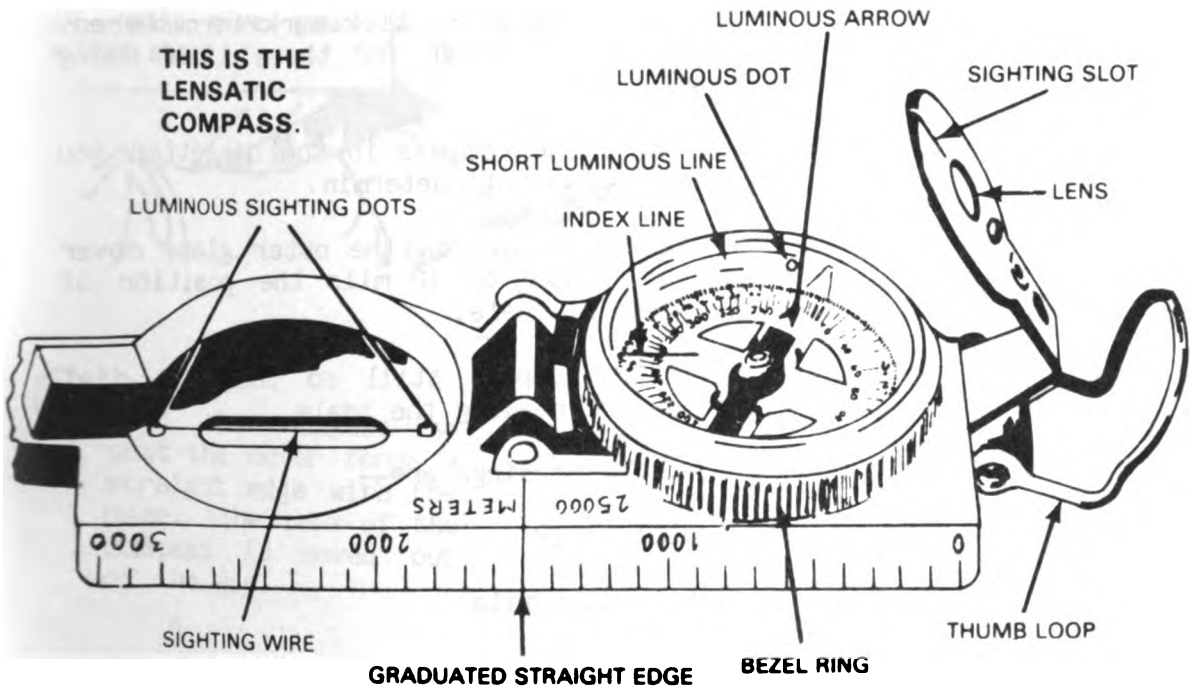
Given a compass (which has been checked against an aiming circle and has no noticeable deviation), a designated point on the ground, in a field environment, under daylight conditions.

STANDARDS:

Within 1 minute, determine the correct magnetic azimuth to the designated known point, to within 30° , using the center-hold technique.

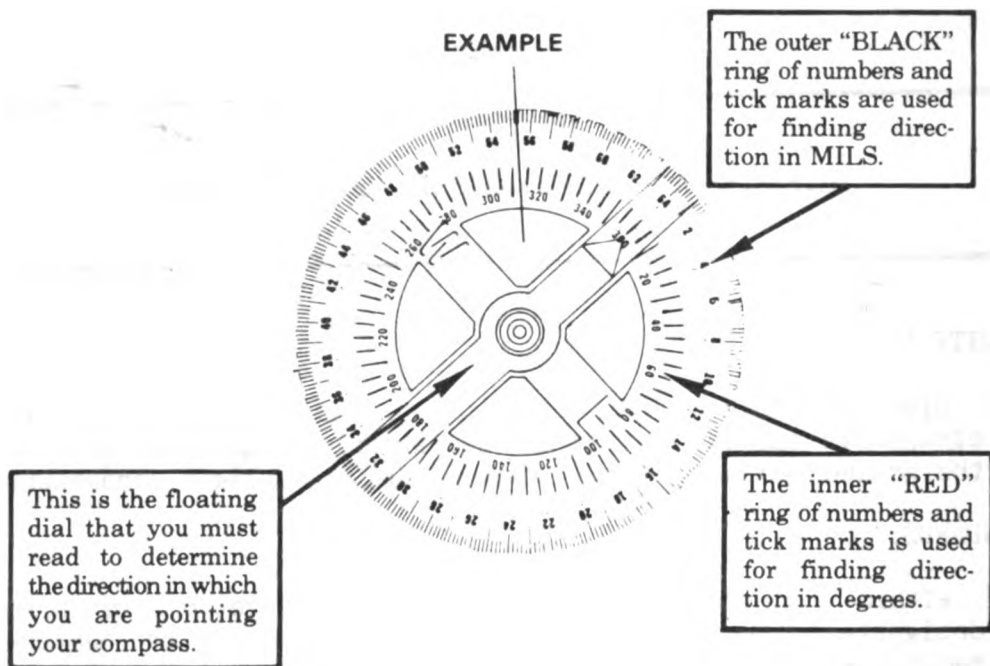
PERFORMANCE MEASURES:

KNOW YOUR COMPASS



BEWARE Your compass is a sensitive instrument... and it's your best friend in the boonies. Take care of it and it will take care of you!

HOW TO READ YOUR COMPASS



1. There are 360° or 6400 mils (m) in a complete circle, and these are marked for you with a tick mark every 5 or 20 m. However, you will notice that not every tick mark is numbered. So you will have to determine the number for these lines using the numbers that are shown.

2. To read direction, point the compass in the direction you want to go or the direction you want to determine.

3. Look beneath the black hairline on the outer glass cover and estimate to the nearest degree of 10 mils the position of the hairline over the (red/black) scale.

4. Be careful to hold the compass still so that the dial remains stationary while you are reading the scale.

5. In the example above, the readings are--

a. Degrees (red scale)-- 312°

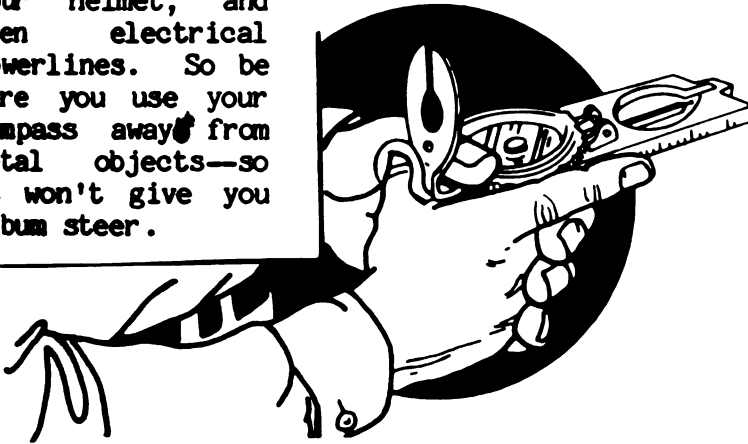
b. Mils (black scale)--5530 mils

6. If you understand the readings in the example and can apply the center-hold technique of shooting an azimuth, you'll be proficient in performing this task.

How Do You SHOOT An Azimuth?

1 You use your compass to find or follow an azimuth. The arrow on the compass points towards magnetic north. The arrow is also attracted by any mass of metal—a jeep, truck, your rifle, your helmet, and even electrical powerlines. So be sure you use your compass away from metal objects—so it won't give you a bum steer.

2 You should use the center-hold technique! it's faster, easier, and more accurate than the old sighting method.



3 Open the compass so that the cover forms a straight edge with the base. The lens of the compass is moved out of the way.

4 Next, place your thumb through the thumb loop, form a steady base with your third and fourth fingers, and extend your index finger along the side of the compass.

5

Place the thumb of the other hand between the eyepiece and the lens, extend the index finger along the remaining side of the compass and the remaining fingers around the fingers of the other hand, and pull your elbows firmly into your sides. This will place the compass between your chin and your belt.

7

If you are land navigating, stop occasionally to check the azimuth along which you are moving to keep from going in circles. Also, you can move from object to object along your path of travel by shooting an azimuth to each object and then moving to that object. Repeating this process while you navigate should keep you "straight"!

6

To measure an azimuth, simply turn your entire body toward the object, pointing the compass cover directly at the object. Once you are pointing at the object, just look down and read the azimuth from beneath the fixed black index line. Man, you can even use this method at night!



WELL, NOW YOU KNOW QUITE A BIT ABOUT **HOW TO USE YOUR COMPASS** TO KEEP FROM **GETTING LOST**. BUT DO YOU KNOW WHAT REALLY **SEPARATES THE MEN FROM THE BOYS?** IT'S KNOWING HOW TO USE THAT **TRUSTY OLD COMPASS AT NIGHT!**



Take another look at the compass on the preceding page. Those luminous lines and luminous dots have a special purpose. See that bezel ring? When you rotate it, you should be able to hear it click. Well, those clicks also have a special purpose, just like the luminous lines and dots. They're all built into the compass to help you set an azimuth on your compass and follow it at night.

WANT TO LEARN HOW TO GET YOUR COMPASS TO KEEP YOU "**ON COURSE**" AT NIGHT? IT TAKES A LITTLE KNOW-HOW — BUT IF YOU UNDERSTAND **EVERYTHING** ABOUT THE COMPASS SO FAR, YOU'LL HAVE NO TROUBLE PICKING IT UP!

WHERE DO YOU FIND THE INFO? LOOK FOR THE **CAT** WITH THE **STRIPES** — YOUR **SQUAD LEADER!** HE'LL FILL YOU IN WITH ALL YOU NEED TO KNOW. OR YOU CAN CHECK **FM 21-26!**

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 5, pages 5-8 thru 5-10, para 5-6)

TC 21-26, Don't Get Lost

TEC Lesson 930-071-0017-F, The Lensatic Compass

071-329-1004

DETERMINE THE ELEVATION OF A POINT ON THE
GROUND USING A MAP

CONDITIONS:

Given a standard 1:50,000 scale military map, pencil, a designated point on the map, and a requirement to determine the elevation of that point.

STANDARDS:

Within 1 minute, determine the elevation of the designated point to within one-half of the value of the contour interval.

PERFORMANCE MEASURES:

To determine the elevation of a point on a map:

1. Locate the point on the map. (It may already be plotted on the map, or given as an eight-digit coordinate.)

2. Determine the contour interval of the map from the marginal information.

3. Locate the index contour line nearest the point for which the elevation is being sought.

4. Count the number of contour lines that must be crossed to go from the numbered lines to the point and note direction—"up" or "down."

a. If the point is on contour lines, its elevation is that of the contour.

b. For points between contours:

(1) Points less than one-fourth the distance between lines are considered to be the same as the elevation of the nearest line.

(2) Points one-fourth to three-fourths the distance from the lower line are considered to be at an elevation half the contour interval above the lower line.

c. To estimate elevation of the top of an unmarked hill, add half the contour interval to elevation of highest contour line around the hill.

d. To estimate the elevation of the bottom of a depression, subtract half the contour interval from the lowest contour around depression.

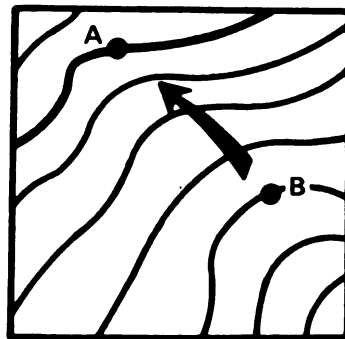
e. On maps that do not show elevation and relief in as much detail as needed, supplementary contour lines may be used. Marginal information indicates the interval, and the supplementary lines are used exactly like solid contour lines.

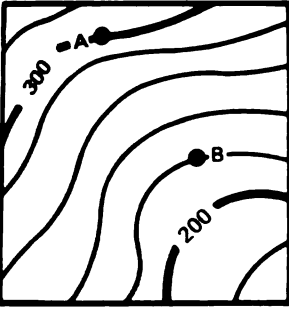
f. Bench marks and spot elevation also indicate points of known elevation.



...and this is about **CONTOUR LINES**

The brown lines on the map are called CONTOUR lines. Each line shows the height above sea level. Contour lines never cross one another. Printed at the bottom of the map is the CONTOUR INTERVAL, which is the difference in height (elevation) between one brown line and the one next to it. On a map with a scale of 1:50,000, contour interval is usually 20 feet. This would make point A 80 feet higher or lower than point B.





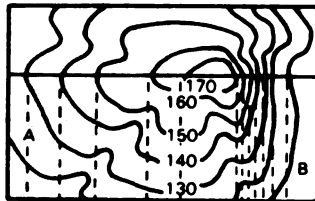
How can you tell from the brown lines whether it's uphill or downhill? Well, every fifth line is heavier than the rest and has a number that gives its elevation. Let's say that the contour interval is 20 feet again. Now, you can tell that point A is 80 feet higher than point B. Also, if you knew the ground distance between A and B, you could get an idea of how steep the slope was.

'SEE IF YOU CAN FIGURE OUT MY ELEVATION. THE CONTOUR INTERVAL IS 20 FEET. CHECK YOUR ANSWER WITH THE RIGHT ONE BELOW!

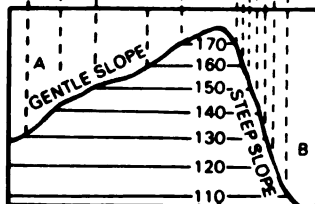


Contour lines widely spaced show a gentle slope. When they are close together the slope is steep.

HILL AS SHOWN ON MAP

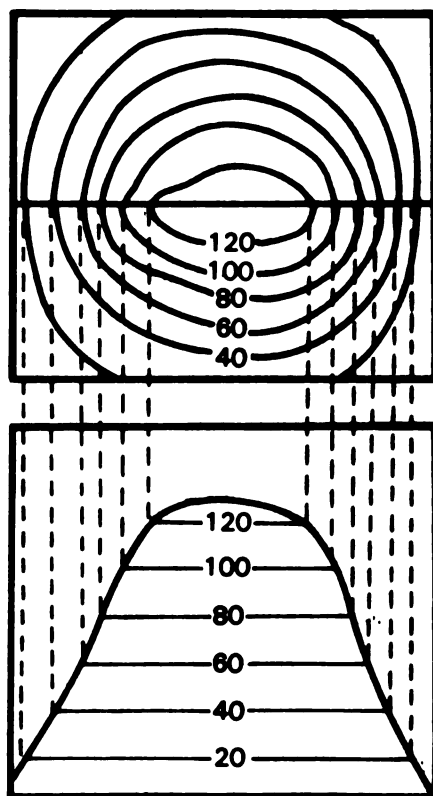
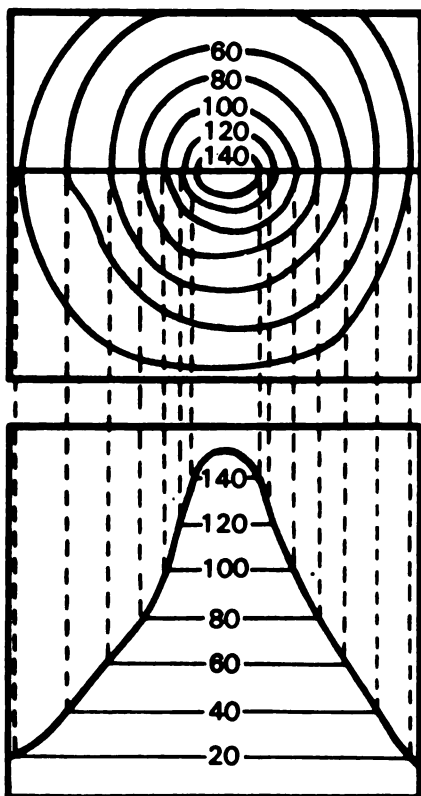


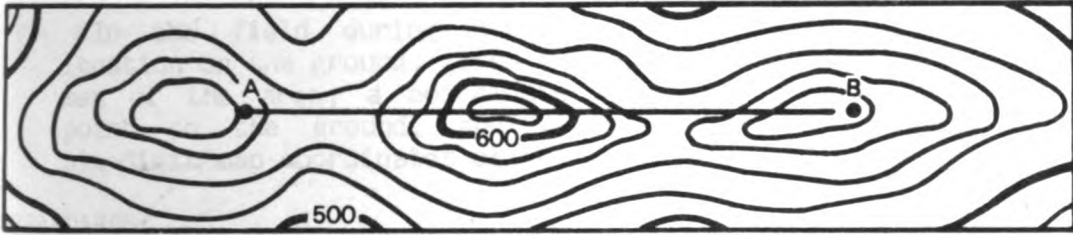
THIS PROJECTED DRAWING SHOWS HOW THE SAME HILL WOULD LOOK FROM THE GROUND! NOTE THAT 'A' IS THE "EASY CLIMB" SIDE.



...AND 'B' IS THE "SUICIDE"!

When the contour lines are close together at the top of a hill, the hilltop is pointed. The hilltop is flat when the contour lines are widely spaced at the top.





REMEMBER: A contour line is a brown line on your map that connects points of the same elevation. You can find the contour interval in the margin at the bottom of your map. The heavy brown lines (every fifth one) have the elevation printed on them. You can tell from looking at your map what the slopes, hills, and valleys will look like on the ground.

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 6, page 6-1, para 6-2)
 TC 21-26, Don't Get Lost
 TEC Lesson 930-071-0016-F, Terrain Features

071-329-1005

DETERMINE A LOCATION ON THE GROUND BY
TERRAIN ASSOCIATION

CONDITIONS:

In the field during daylight hours, while at an unknown location on the ground, given a standard 1:50,000 scale military map of the area, a coordinate scale and protractor, a known point on the ground, and a requirement to determine the six-digit map coordinates of the location.

STANDARDS:

Within 15 minutes, determine the six-digit grid coordinates of your location to within 100 meters.

PERFORMANCE MEASURES:

1. Determine the four cardinal directions (north, south, east, and west).
2. Determine the type of terrain feature on which you are located.
3. Determine what types of terrain features surround the location.
4. Orient the map.
5. Relate the terrain features on the ground to those shown on the map.
6. Having determined where the terrain features on the ground and those on the map coincide, determine the coordinate location of that point using the coordinate scale and protractor.

REFERENCE:

TEC Lesson 930-071-0018-F, Land Navigation With a Map and Compass

071-329-1006

NAVIGATE FROM ONE POSITION ON THE GROUND
TO ANOTHER POINT

CONDITIONS:

Given a standard 1:50,000 scale military map, compass, a coordinate scale and protractor, and designated start and finish points no more than 3,000 meters apart. The field location of the task should appear on the military map and contain varying types of terrain. Weather conditions should not be considered a limiting factor.

STANDARDS:

Within 1 hour, move from the start point to the finish point.

PERFORMANCE MEASURES:

1. Locate the start point and finish point on the map and determine where the start point is on the ground.
2. Determine the grid azimuth from the start point to the finish point on the map.
3. Convert the grid azimuth to a magnetic azimuth.
4. Determine the distance between the start point and the finish point on the map.
5. Convert the map distance to pace count.
6. Place the azimuth between the start point and the finish point under the fixed black index line of the compass.
7. When planning the route between points, select terrain features that will be encountered by making a map reconnaissance.
8. Make a mental checklist of such features.
9. Move to the start point to begin pace count.

10. While moving along the route, check against your list.

11. After reaching the finish point, conduct a detailed terrain analysis to confirm your location.

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69

TC 21-26, Don't Get Lost

TEC Lesson 930-071-0018-F, Land Navigation With a Map and Compass

071-329-1007

DETERMINE DISTANCE WHILE MOVING BETWEEN TWO POINTS ON THE GROUND

CONDITIONS:

Given a 600-meter pace course, a pace factor conversion table to determine your pace count, and a requirement to move by foot over varying types of terrain during daylight hours in all types of weather from a start point to a finish point not less than 500 meters nor greater than 700 meters in length.

STANDARDS:

Determine the distance between the start point and finish point to within 5 percent of the actual distance in a maximum of 45 minutes.

PERFORMANCE MEASURES:

When you have to go a certain distance on foot without any landmarks to guide you, you can measure distance pretty accurately by counting your paces. The average pace is just a little less than 1 meter. The average man uses 116 paces to travel 100 meters. You should check your pace length by practicing on a known 100-meter distance--like a football field plus one end zone, which is 110 yards (pretty close to 100 meters).

BEWARE: When you travel cross country like you do in the field, you use more paces to travel 100 meters--usually about 148 instead of 116. This is because you are not traveling over level ground, and you must use more paces to make up for your movement up and down hills. You should pace yourself over at least 600 meters of cross-country terrain in order to learn how many paces it takes you to travel an average 100 meters over cross-country terrain.

Be sure you know how many paces it take you to walk 100 meters both on level terrain and cross-country.

IF YOU FIND THAT YOU DON'T TAKE
116 PACES IN 100 METERS, FIGURE
OUT HOW MANY PACES YOU DO
TAKE TO GO 100 METERS.





The big problem in pacing is maintaining a straight line. At night the average man tends to walk in a circle if he doesn't use a compass. In daylight, you should use aiming points and a compass. Also, remember to figure only the straight-line distance when you have to walk around an obstacle.

Another problem is keeping count of paces taken. One way is to use pebbles. For instance, suppose you want to pace off one kilometer. (One kilometer is 1000 meters, or the distance between two of the black grid lines on your map.) Put 10 pebbles in your right pocket. When you go 100 meters move one pebble to your left pocket and start your count over. When all 10 pebbles have been moved to the left pocket, you have travelled one kilometer! Or, you can tie knots in a string -- one knot per 100 meters.



Now, let's work a sample problem.

Problem: You are to move 715 meters.

- a. Your pace count for 100 meters is equal to 116 paces.
- b. Using the pebble method, you will need seven pebbles. This will take you 700 meters. But what about the other 15 meters?
- c. To determine how many paces it will take to go the remaining 15 meter, you simply multiply 15 meters by your pace count (116).

(1) $15 \times 116 = 1740$.

(2) Mark out the last two numbers (40). The remainder is how many paces it will take to go 15 meters (17).

d. So, you would go 715 meters using the pebble method by pacing off 116 paces per 100 meters until all seven pebbles were used, then go an additional 17 paces to arrive at 715 meters.

REMEMBER: When determining your number of paces to go, if it is not a multiple of 100, always multiply the meters remaining by your pace count and mark out the last two numbers in your result.

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69

TC 21-26, Don't Get Lost

TEC Lesson 930-071-0018-F, Land Navigation With a Map and Compass

071-329-1008

MEASURE DISTANCE ON MAP

CONDITIONS:**Given:**

1. A standard 1:50,000 topographic map on which is plotted:
 - a. Point A and Point B, 3,000 to 4,000 meters apart.
 - b. Point C and Point D, 3,000 to 4,000 meters apart, on a road (trail) which changes direction at least twice.
2. A strip of paper with a straight edge.

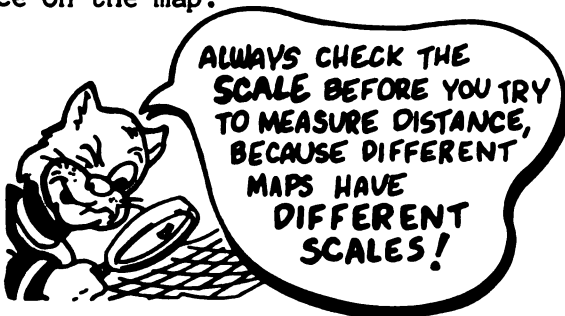
STANDARDS:

1. Determine the straight-line distance, in meters, from Point A to Point B within 50 meters, in 3 minutes.
2. Determine the road (curved-line) distance from Point C to point D within 100 meters, in 3 minutes.

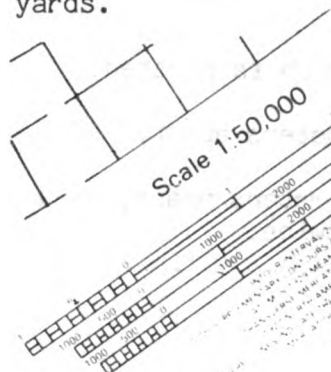
PERFORMANCE MEASURES:

1. You can use your map to measure distance—how far it is between two places. The map is drawn to scale. This means that a certain distance on the map equals a certain distance on the earth. The scale is printed at the bottom and at the top of the map, like this—Scale 1:50,000.

2. This means that 1 inch on the map equals 50,000 inches on the ground. In fact, any ground distance equals 50,000 times that distance on the map.

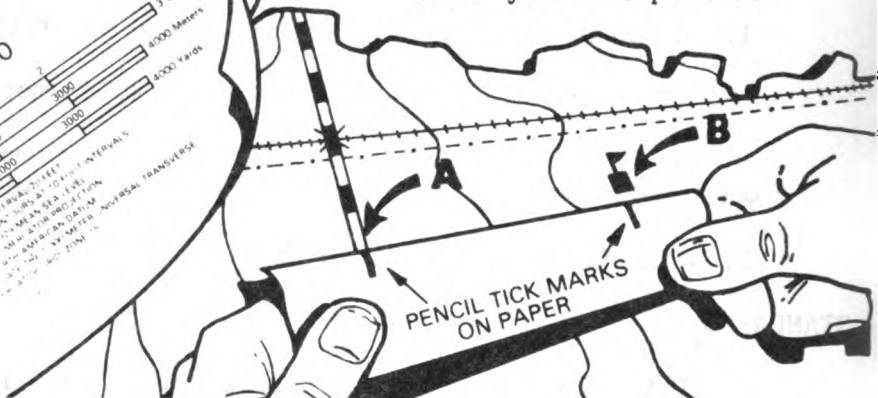


At the bottom of the map you will also find three different bar scales which will help you to change map distance to miles, meters or yards.

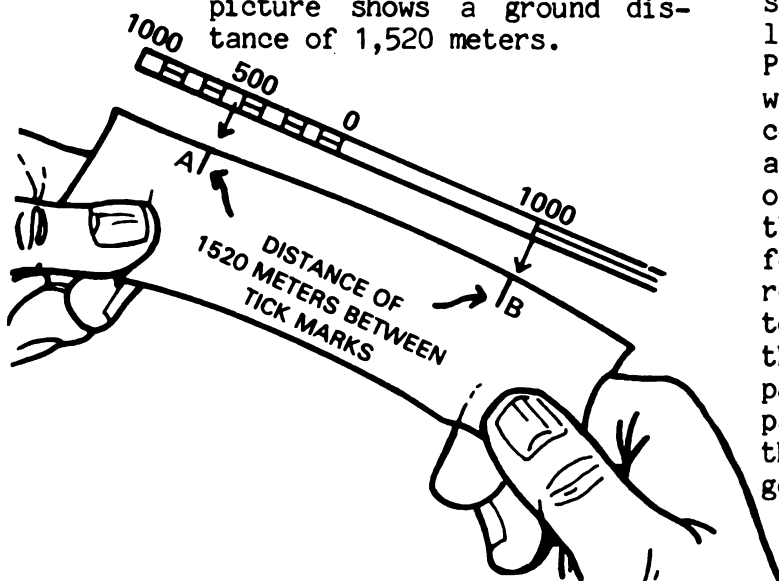


HERE'S HOW YOU USE THE BARS TO FIGURE DISTANCE ON THE GROUND:

- ① Take a ruler (straightedge or the edge of a piece of paper and mark on it the straight line distance between your two points.



- ② Then put the ruler or paper just under one of the bar scales and read the ground distance in miles, meters, or yards. The bar scale in the picture shows a ground distance of 1,520 meters.

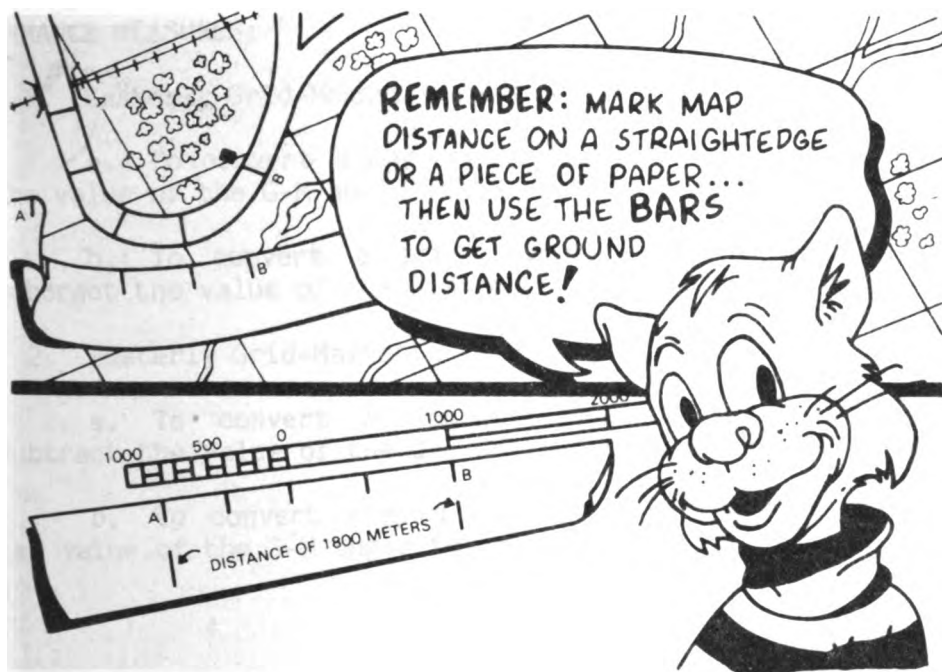


- ③ Suppose you want to find the distance between A and around the curve in a road. Take a strip of paper, make small tick mark on it, and line up the tick mark with Point A. Aline the paper with the road edge until you come to the curve, make another mark on the paper and on the map, and then pivot the paper so it continues to follow the road edge. Keep repeating this until you get to Point B. Always follow the road edge with your paper. Mark a mark on your paper where it hits B, and then go to your bar scales to get the distance.

Normally, you will be required to measure distance in meters, and you may receive a problem that goes off the bar scale. The meter bar scale allows you to measure distances up to 5,000 meters. If you have to measure distances greater than 5,000 meters, follow this procedure.

a. Step A. Place your starting point on the paper under the zero on the bar scale. Measure off 4,000 meters and place a new tick mark at that point on your paper.

b. Step B. Place this second tick mark also under the zero on the bar scale and determine if the distance on the paper now falls within the bar scale. If it does, add this value to 4,000 to give you your total distance. If it does not, repeat Step A until the distance on the paper falls within the bar scale. Remember to add this last value to the total number of meters you've already measured.



REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 4, page 4-2, para 4-3)
 TC 21-26, Don't Get Lost

071-329-1009

CONVERT AZIMUTHS (MAGNETIC OR GRID)

CONDITIONS:

Given a standard 1:50,000 scale military map with a declination diagram, a pencil, and either a magnetic azimuth or a grid azimuth which must be converted.

STANDARDS:

Within 3 minutes, convert the given magnetic azimuth to a grid azimuth (or grid to magnetic) without error.

PERFORMANCE MEASURES:**1. Easterly Grid-Magnetic (G-M) Angle (fig. 1):**

a. To convert a magnetic azimuth to a grid azimuth, add the value of the G-M angle to the magnetic azimuth.

b. To convert a grid azimuth to a magnetic azimuth, subtract the value of the G-M angle from the grid azimuth.

2. Westerly Grid-Magnetic (G-M) Angle (fig. 2):

a. To convert a magnetic azimuth to a grid azimuth, subtract the value of the G-, angle from the magnetic azimuth.

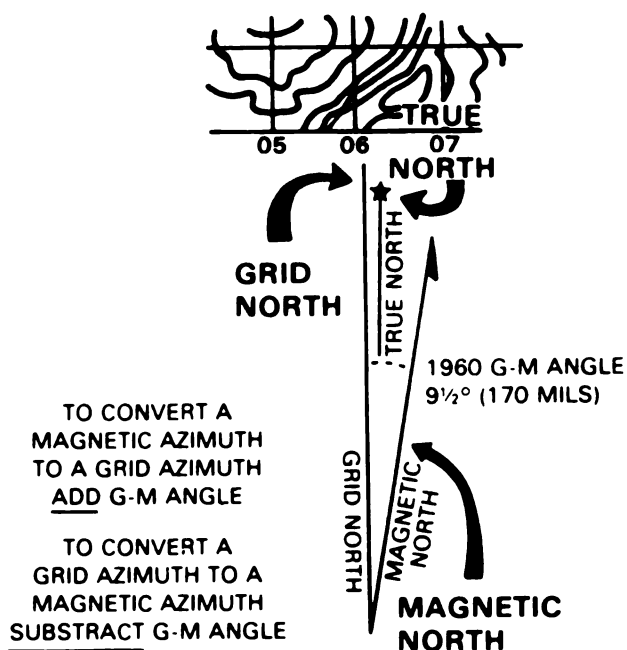
b. To convert a grid azimuth to a magnetic azimuth, add the value of the G-M angle to the grid azimuth.



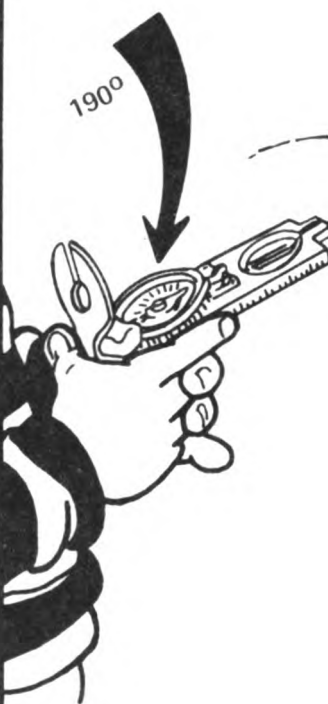
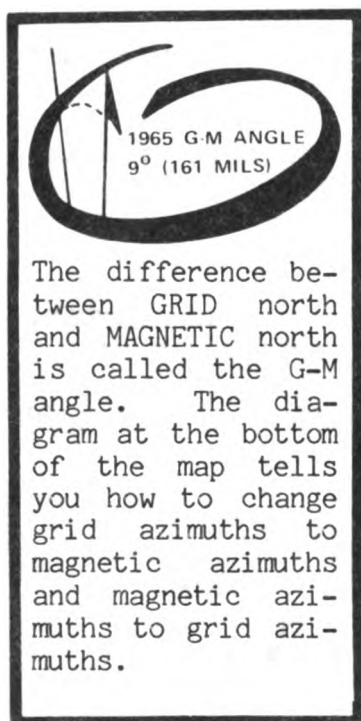
Figure 1.



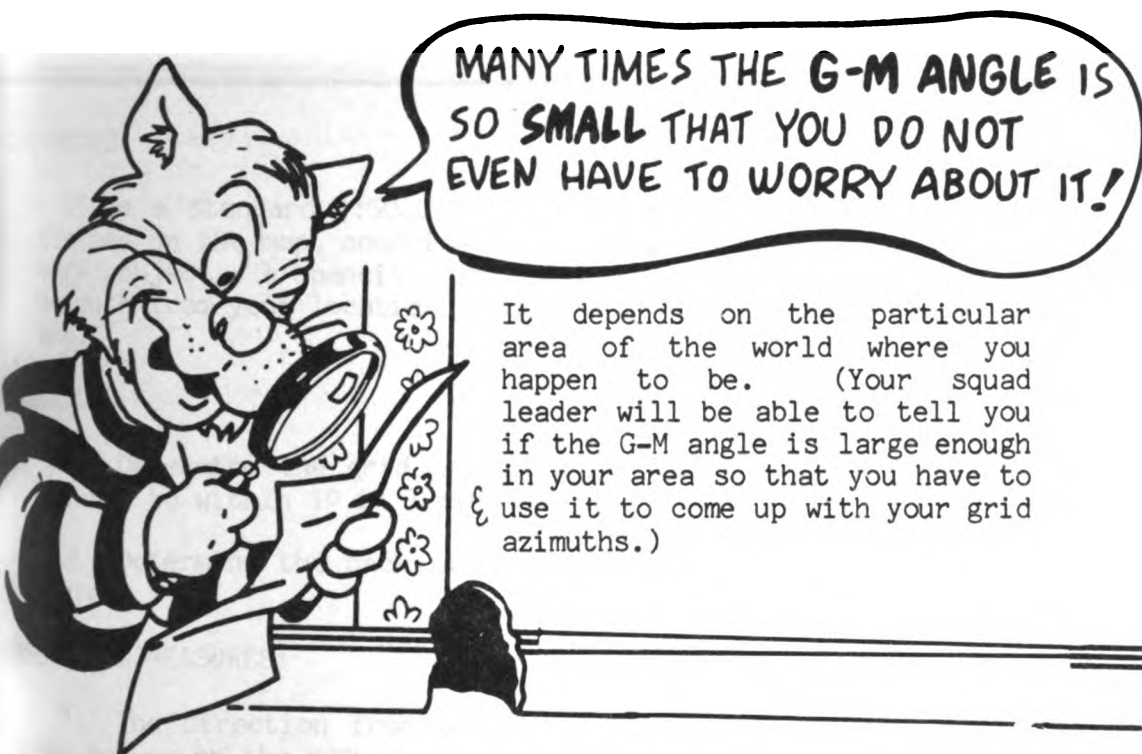
Figure 2.



The north-south lines on your map give GRID north. The needle of the compass points to MAGNETIC north. Grid north and magnetic north are usually different by a few degrees. Neither one points straight at the North Pole that's called TRUE north, but you needn't worry about TRUE north to keep from getting lost in a combat area. The difference in degrees for every map is shown at the bottom of the map sheet.



For example, you aim your compass at a distant tower. The compass reading you get is 190° -- the MAGNETIC azimuth. The diagram on your map tells you that the G-M angle is 9°, and it also tells you that "to convert a magnetic azimuth to a grid azimuth, add the G-M angle." So, add 9° to your compass reading. This gives you $190 + 9 = 199$. Your grid azimuth is 199°.



REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 5, pages 5-1 thru 5-6, para 5-3 thru 5-4)

TC 21-26, Don't Get Lost

TEC Lesson 930-071-0015-F, Converting Azimuths

071-329-1010

DETERMINE AZIMUTHS USING A COORDINATE SCALE AND PROTRACTOR

CONDITIONS:

Given a standard 1:50,000 scale military map, two known points plotted on the map, coordinate scale and protractor, a straight-edge object, a pencil, and a requirement to determine the azimuth from your location (Point A) to another point (B) on the map.

STANDARDS:

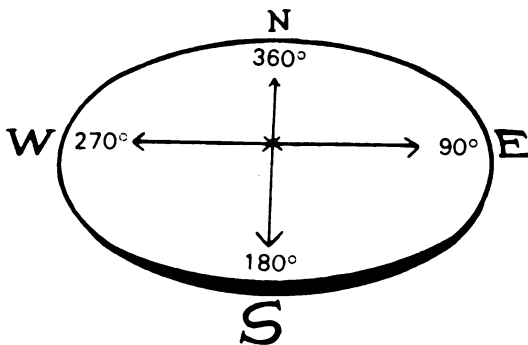
1. Determine the grid azimuth from your location (Point A) to Point B to within 10° in 3 minutes.
2. Determine the back azimuth of a given azimuth to the exact degree.

PERFORMANCE MEASURES:

1. The direction from one point to another point, either on the map or on the ground, has a military name--

AZIMUTH

2. Azimuths are given in degrees in a clockwise direction. Since there are 360° in a circle, your azimuth can be any number up to 360. Due east is 90° , due south is 180° , due west is 270° , and due north is 360° .



3. To get the right azimuth from a map, you have to use a protractor. Here is how to use your protractor to determine an azimuth:

a. Determine your location (Point A) and the location of the other point (B) on the map (see fig. 1).

b. Draw a straight line from Point A to Point B.

c. Place the index of the protractor over center of mass of Point A with the 0° on the protractor at the top and 90° to the right.

d. Start at the 0° point on the protractor and read to the right in a clockwise manner until reaching the point where the straight line intersects the protractor scale.

e. Read the azimuth in degrees from the protractor--210°.

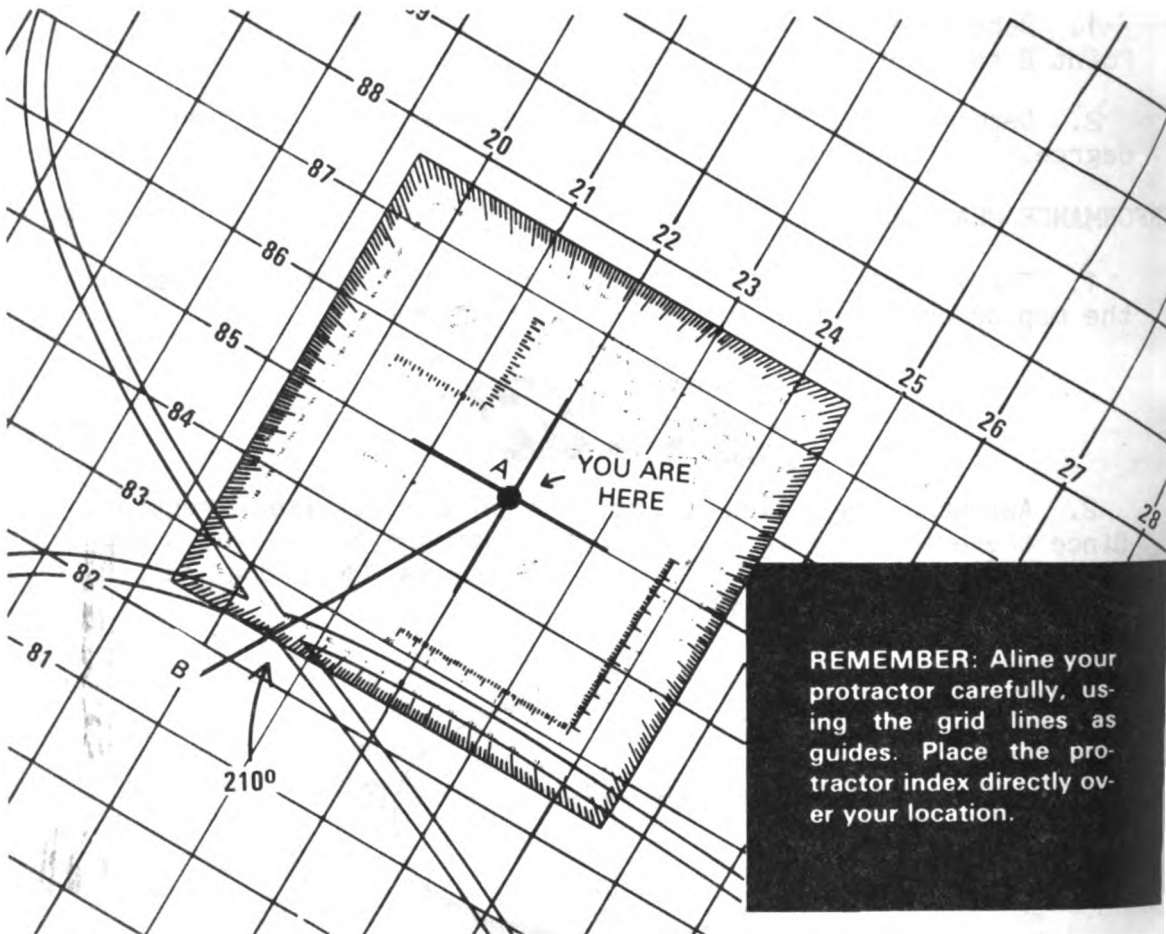


Figure 1

WHEN YOU TURN AROUND COMPLETELY, YOU
TURN BACK 180 DEGREES!



$$\begin{array}{r} 320 \\ -180 \\ \hline 140 \end{array} \quad \begin{array}{r} 60 \\ +180 \\ \hline 240 \end{array}$$

If you can't subtract 180° because your first azimuth is too small, then just add 180°. For example, if your azimuth was 40°, you know that you can't subtract 180°, so you add 180. The back azimuth would be $40 + 180 = 220^\circ$.

$$\begin{array}{r} 210 \\ -180 \\ \hline 30 \end{array} \quad \begin{array}{r} 16 \\ 180 \\ \hline 196 \end{array} \quad \begin{array}{r} 40 \\ +180 \\ \hline 220 \end{array} \quad \begin{array}{r} 190 \\ -180 \\ \hline 10 \end{array}$$

$$\begin{array}{r} 72 \\ +180 \\ \hline 252 \end{array}$$

REMEMBER A back azimuth goes in the opposite direction from an azimuth

Suppose you follow the 210° azimuth in figure 1 to the road junction, and then you want to go back to your original location. To do this, you take a BACK AZIMUTH. You simply subtract 180 from the first azimuth. Your back azimuth is $210 - 180 = 30^\circ$.

Can you figure out the back azimuth of 290°?

How about the back azimuth of 75°?

Check your answers with the correct answers listed to the

ANSWERS: The back azimuth of 290° is 290 minus 180, which is 110°. The back azimuth of 75° is 75 plus 180, which is 255°.

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69
TC 21-26, Don't Get Lost
TEC Lesson 930-071-0014-F, Measuring Distance and Azimuth

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071-329-1011

ORIENT A MAP USING A COMPASS

CONDITIONS:

Given a standard 1:50,000 scale military map and lensatic compass, in a field environment, under daylight conditions.

STANDARDS:

Within 1 minute, orient the map to the ground using a compass so that the north-seeking arrow of the compass is within 30° of the angle shown in the G-M angle of the declination diagram shown on the map.

PERFORMANCE MEASURES:

1. With the map in a horizontal position, the compass is placed parallel to a north-south grid line with the cover side of the compass pointing toward the top of the map. This will place the black index line on the dial of the compass parallel to grid north. Since the needle on the compass points to magnetic north, we have a declination diagram on the face of the compass formed by the index line and the compass needle.

2. Rotate map and compass until the directions of the declination diagram formed by the black index line and the compass needle match the directions shown on the declination diagram printed on the margin of the map. The map is then oriented.

3. If the magnetic north arrow on the map is to the left of grid north, the compass reading will equal the G-M angle (given in the declination diagram). If the magnetic north is to the right of grid north, the compass reading will equal 360° minus the G-M angle.

4. Remember to point the compass north arrow in the same direction as the magnetic north arrow (2 above), and the compass reading (equal to the G-M angle or the 360° minus the G-M angle) will be quite apparent.

5. Some maps have a built-in protractor consisting of a pivot point "P" on the south neatline of the map and several degrees of arc along the north neatline of the map. The G-M line is obtained by connecting pivot point "P" with the appropriate value of the G-M angle (taken from the declination diagram) on the arc. The map may then be oriented by placing the compass parallel to this line and rotating the map and compass until the needle point is alined with the continuous line formed by the index line and the sighting wire. The map is then oriented.

6. An alternate method is to draw a magnetic north line on the map from any N-S and E-W grid line intersection using the protractor. Aline the straightedge of the compass long this magnetic north line and rotate the map and compass together until the north arrow falls beneath the fixed black index line on the compass.

NOTE: If G-M angle is less than 30° , do not line up north arrow.

REFERENCE:

FM 21-26, Map Reading, C1, Jan 69 (chap 5, page 5-10, para 5-7)

071-329-1012

ORIENT A MAP TO THE GROUND BY
MAP-TERRAIN ASSOCIATION

CONDITIONS:

Given a standard 1:50,000 scale military map in a field site, under daylight conditions.

STANDARDS:

You must orient the map to north within 30° in 10 minutes.

PERFORMANCE MEASURES:

There are many good ways that you can use to locate your position on your map, but first you have to do one important thing.

You've got to point your map so that NORTH, SOUTH, EAST, and WEST on the map POINT THE SAME WAY as they do ON THE GROUND.



Look at the map and the ground to find two linear features common to both, such as hilltops, saddles, valleys, ridges, and depressions. By alining the features on the map with the same feature on the ground (fig. 1 and 2) the map is oriented.

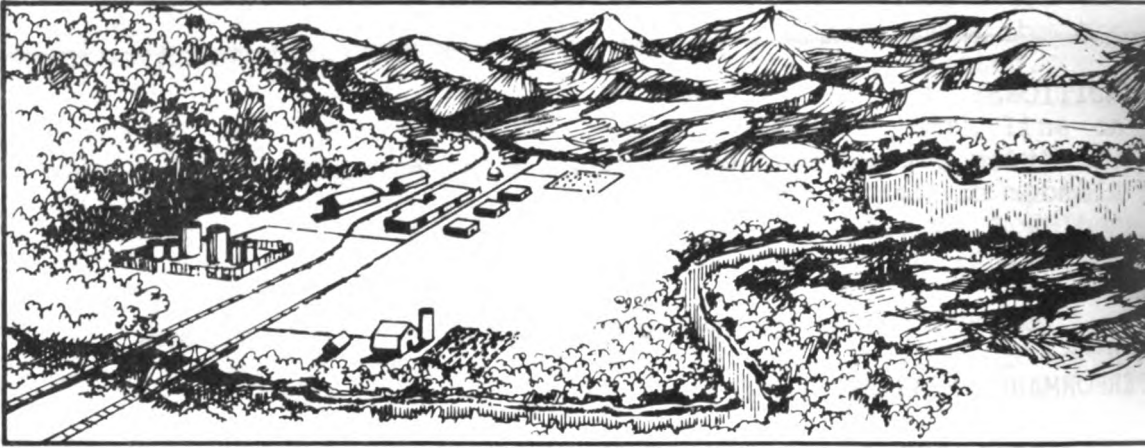


Figure 1. An area as viewed from a ground position.

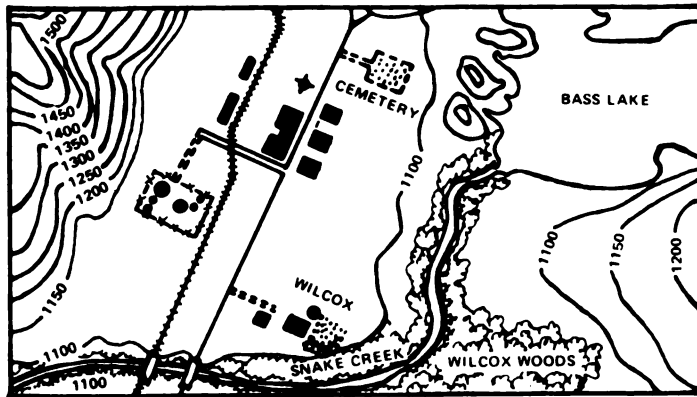


Figure 2. Map of the same area as in figure 1.

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 5, page 5-10, para 5-7)
 TC 21-26, Don't Get Lost

071-329-1013

COMPUTE THE BACK AZIMUTH OF AN AZIMUTH

CONDITIONS:

Given a known azimuth, pencil, and paper.

STANDARD:

Within 1 minute, find the back azimuth of the given azimuth.

PERFORMANCE MEASURES:

The back azimuth of a compass direction differs from its azimuth by exactly 180° . To find the back azimuth of an--

- a. Azimuth of less than 180° , add 180° .
- b. Azimuth of more than 180° , subtract 180° .
- c. Azimuth of 180° , add or subtract 180° (the back azimuth is 0° or 360°).

REFERENCE:

FM 21-26, Map Reading

071-329-1014

LOCATE AN UNKNOWN POINT ON A MAP OR ON THE
GROUND BY INTERSECTION

CONDITIONS:

In a field location, given a standard 1:50,000 scale military map of the area, the location of two known points, compass, coordinate scale and protractor, pencil, and an object or terrain feature for which you must determine the location (grid coordinates).

STANDARDS:

Within 7 minutes (15 minutes, if you must measure azimuths), determine the 100,000 meter-square-identification letters and six-digit coordinates to within 100 meters.

PERFORMANCE MEASURES:

Intersection is a method used to locate unknown points on a map by intersecting lines from two known points.

For example: A magnetic azimuth from a known observation post (OP) to an unknown point is changed to a grid azimuth and drawn on the map. Another magnetic azimuth from another known OP location to the same unknown point is changed to a grid azimuth and drawn on the same map. Where the lines intersect on the map is the location of the distant point.

1. Map and Compass Method (fig 1).

NOTE: Map not to scale and an easterly G-M angle of 10° is used.

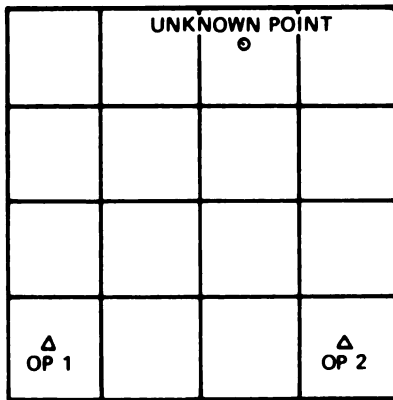
- a. Determine the G-M angle of the map you are using.
- b. Locate and mark your position on the map.
- c. Measure the magnetic azimuth to the unknown point (220); change it to a grid azimuth. From the magnetic azimuth you found, subtract the G-M angle if it is westerly; add if it is easterly. In the example, the G-M angle used was 10° easterly.

d. Place the protractor on the map, insuring that the 00 indicator on the protractor is pointing to the top of the map (north) and the index point is placed center mass on your location (fig 1). Place a tick mark on the number of degrees you want to plot. Draw a line on the map from your position on this grid azimuth (320).

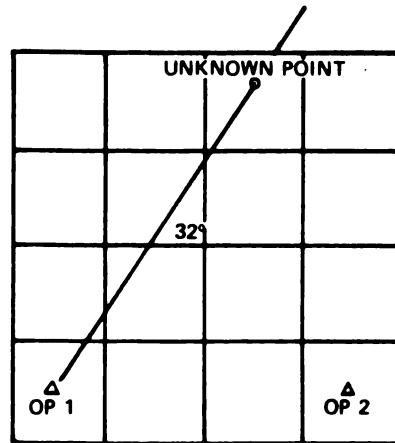
e. Move to or call a second known position from which the unknown point can be seen. Locate this position on the map.

f. Repeat c and d above.

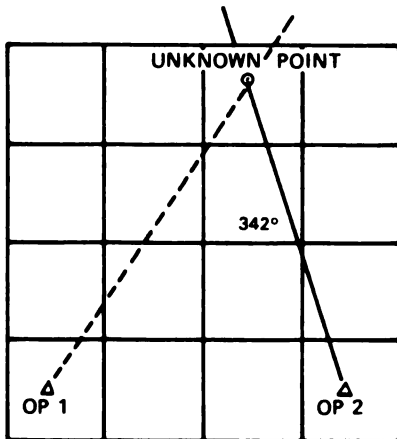
g. Where the lines cross is the location of the unknown point.



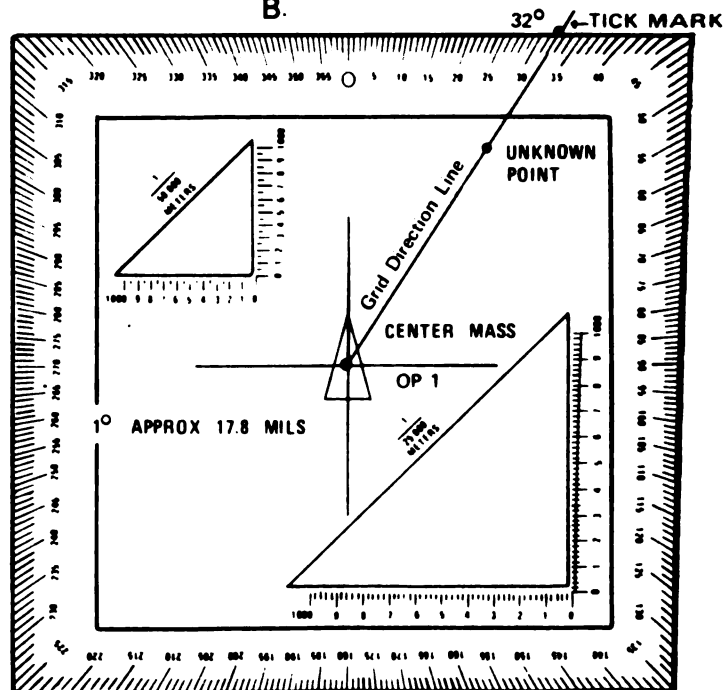
A.



B.



C.



D.

Figure 1

2. Straightedge Method (When No Compass Is Available) (fig. 2).

a. (See task: Orient A Map to the Ground by Map-Terrain Association.)

b. Locate and mark your position on the map.

c. Lay a straightedge on the map with one end at user's position (A) as a pivot point and rotate the straightedge until the unknown point is sighted along the edge.

d. Draw a line along the straightedge.

e. Repeat the above procedure at position (B) and for a check on accuracy at a third position.

f. The intersection is the location of the unknown point (C).

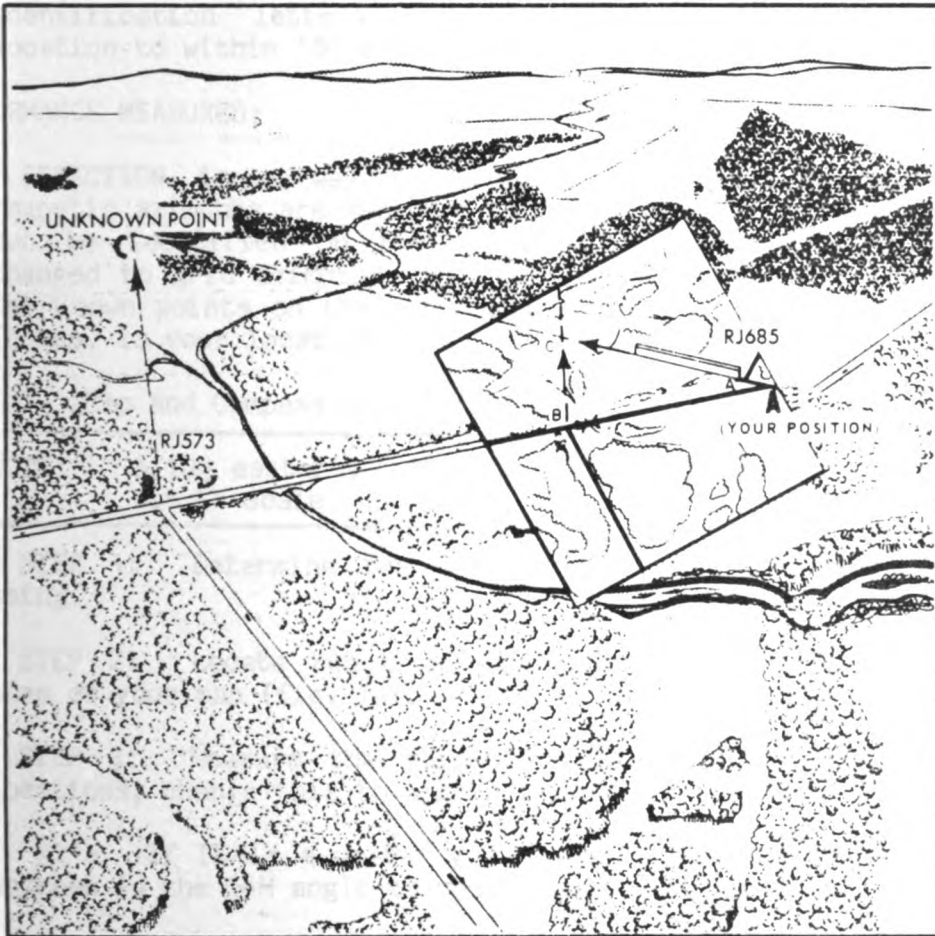


Figure 2. Intersection without compass.

FM 31-11B-S

REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 5, page 5-14, para 5-9)
TEC Lesson 930-071---0018-F, Land Navigation with Map and Compass

071-329-1015

LOCATE AN UNKNOWN POINT ON A MAP
OR ON THE GROUND BY RESECTION

CONDITIONS:

In a field at an unknown location, given a standard 1:50,000 scale military map of the area, a compass, straightedge, coordinate scale and protractor, pencil, and two terrain features visible from your location and identifiable on the map.

STANDARDS:

Within 10 minutes, determine the 100,000-meter-square identification letters and six-digit coordinates of your location to within 100 meters of the actual grid coordinates.

PERFORMANCE MEASURES:

RESECTION is a way to locate one's position on a map. Magnetic azimuths are measured to two points on the ground which can be identified on the map. These magnetic azimuths are changed to grid azimuths, and the back azimuths are drawn from the known points on the map. Where these two/three lines resect (cross) is your location.

1. Map and Compass Method (fig. 1).

NOTE: A 100° easterly G-M angle is used in the examples. Map not to scale.
--

STEP 1: Determine the G-M angle of the map that you are using.

STEP 2: Locate two known positions on the ground and mark them on your map (fig. 1a).

STEP 3: Measure the magnetic azimuth to one of the known locations; change this to a grid azimuth (fig. 1b).

a. If it is a westerly G-M angle, subtract the number of degrees in the G-M angle to your magnetic azimuth.

b. If it is an easterly G-M angle, add the number of degrees in the G-M angle to your magnetic azimuth.

STEP 4: Change this grid azimuth to a back azimuth.

STEP 5: Place the protractor on the map insuring that the 0° indicator on the protractor is pointing to the top of the map (north) and the index point is placed center mass on this location. Place a tick mark on the number of degrees you want to plot. Remove protractor from the map and draw a line on the map from this position on the grid back azimuth you found, in the direction of your unknown position.

STEP 6: Repeat steps 3 through 5 for a second and third known position (figs. 1c and 1d).

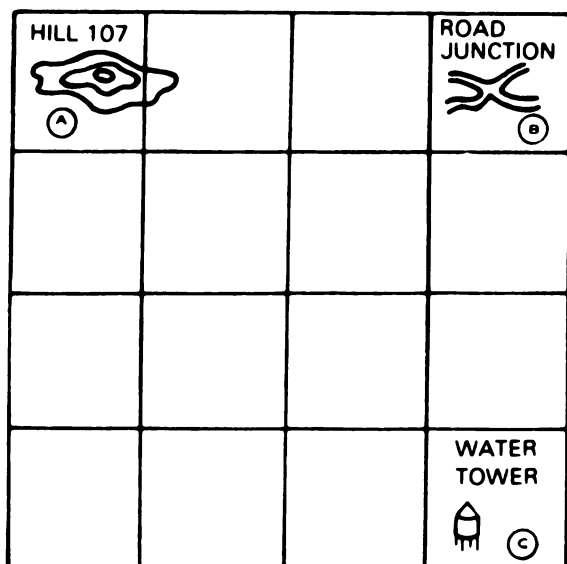


Figure 1a

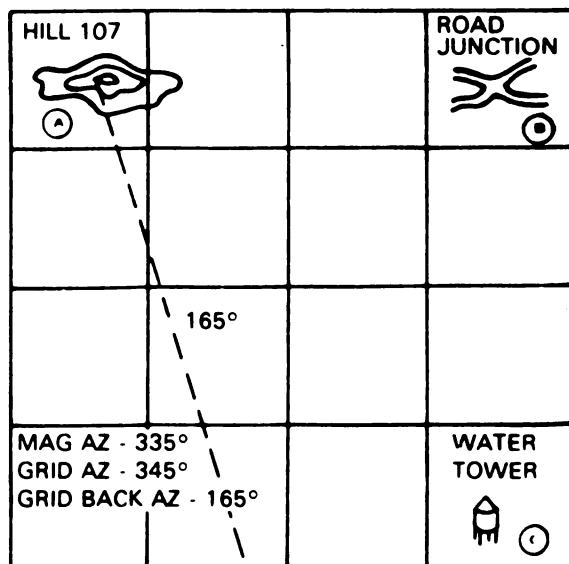


Figure 1b

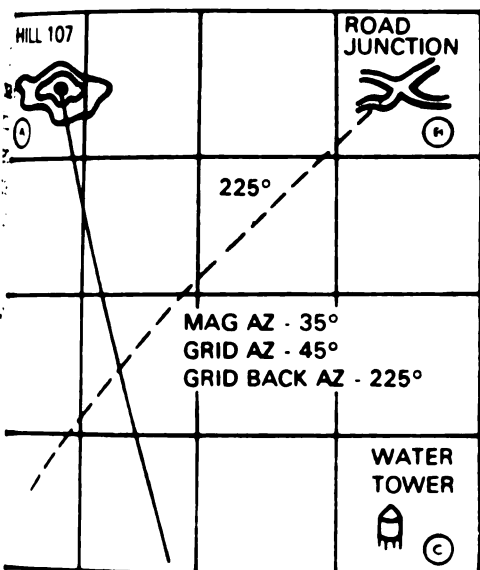


Figure 1c

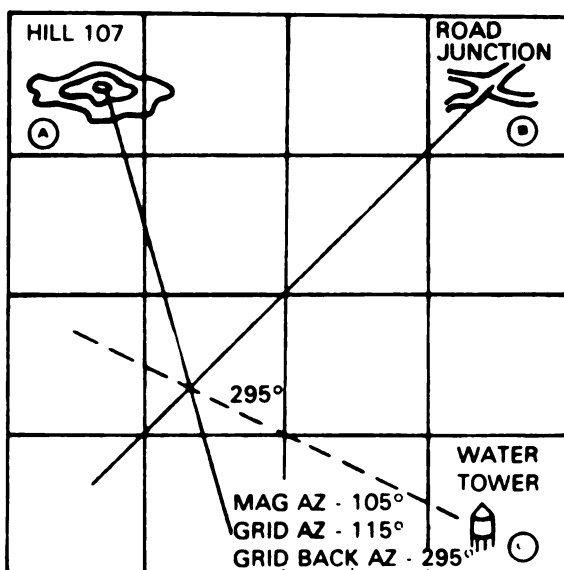
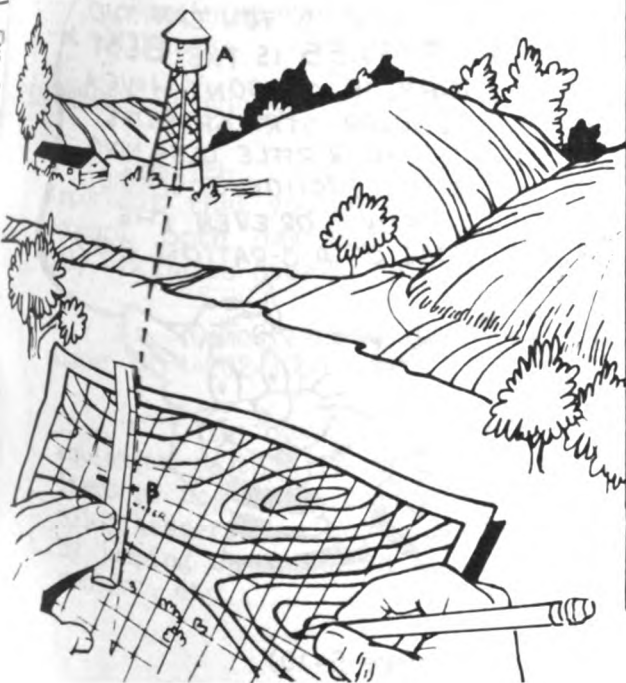


Figure 1d

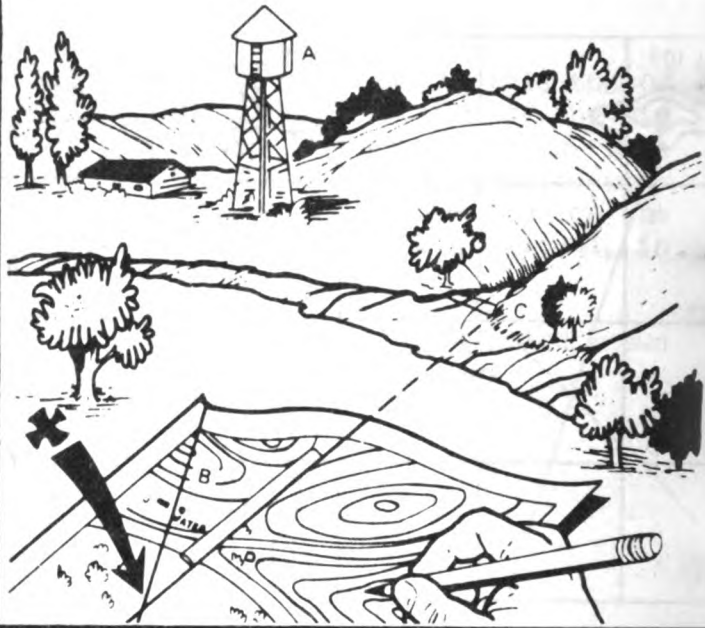
Figure 1

RESECTION WITHOUT A COMPASS



Orient your map as closely as you can using one of the ways, you've learned about finding direction--compass, sun watch, or stars. Then, look for some feature--like a water tower (A)--that you can also find on the map. Put a ruler or straightedge on the map and place its edge right next to the water tower symbol (B) on the map. Then aline the straightedge so that it points exactly at the real water tower. Draw a line along the ruler (the line will cross the symbol for the water tower on your map).

Next, find another feature--like a road junction--and do the same thing. Lay the straightedge on your map and point it at the real road junction (C), while at the same time its edge crosses over the road junction (D) on the map. Draw another line along the ruler until it crosses (intersects) the first line. The point where the lines cross is your location (X). If you do the same thing with a third line, it may help locate your position more accurately.



REMEMBER: Don't move your map once you've got it properly oriented.

MODIFIED RESECTION

First orient your map, then find some feature that you can also find on the map, such as the water tower in the previous example. Just like before, put a straightedge through the water tower. Draw a line along the ruler. The point where the line crosses the linear feature which you know you are on (road, riverbank, etc.) is your location.

REMEMBER: ALWAYS ORIENT YOUR MAP AS CLOSELY AS YOU CAN. THE COMPASS IS THE BEST WAY. IF YOU DON'T HAVE A REGULAR STRAIGHTEDGE, USE YOUR RIFLE CLEANING ROD, A SECTION OF RADIO ANTENNA, OR EVEN THE EDGE OF A C-RATION BOX!



REFERENCES:

FM 21-26, Map Reading, C1, Jan 69 (chap 5, page 5-10)

TC 21-26, Don't Get Lost

TEC Lesson 930-071-0018-F, Land Navigation with a Map and Compass

071-331-0001

MOVE AS A MEMBER OF A PATROL

CONDITIONS:

During daylight or darkness in a field environment, you are required to function as a member of a combat or reconnaissance patrol. You are equipped with your individual weapon, load bearing equipment, poncho, soft cap, and other special equipment as directed by the patrol leader.

STANDARDS:

Move as a member of a patrol in accordance with guidance given in the performance measures so that you--

1. Are not easily seen or heard during movement.
2. Properly demonstrate the techniques of using rally points, crossing danger areas, and passing up the count.
3. Remain appropriately alert and sensitive to enemy presence at all times.

PERFORMANCE MEASURES:

1. Stealth. As a member of a patrol, it is extremely important that you be able to move across the terrain unseen and unheard both day and night. Use the following techniques to help maximize stealth on patrol:

a. Camouflage and conceal yourself as discussed in task number 051-202-1001.

b. Tie down, wrap, tape, or otherwise secure personal equipment so that it makes no sound when you walk or run. Such items as dog tags, loose change, bayonets, magazines, and weapon sling keepers are notorious noisemakers. Check out your dress by jumping up and down and listening for rattles, metal-to-metal contact, etc.

c. Wear soft, well-fitting clothes. Loose, baggy clothes will swish and snag easily as you move. Steel pots and rain gear are particularly noisy when you are moving through dense terrain.

d. Practice soundless movement when walking or crawling. Be concerned about the placement of your feet to avoid snapping twigs or rustling leaves. Step around underbush rather than pushing through branches thereby making noise and possible problems for following soldiers.

e. Avoid extremely dense or steep terrain where you know stealth will be difficult or impossible to maintain.

f. During night movement it becomes essential that you use your sense of touch to identify obstacles and avoid them. Feel forward with your free hand or lead foot to sense low hanging branches, holes, stumps, etc. Pass on a quiet warning of obstacles to following soldiers.

2. Rally Points. In the operation order and during movement, the patrol leader will often designate rally points along the route. These are easily recognizable (by day and night) terrain locations which are used as planned assembly points for member of the patrol. When a rally point is designated, you must--

a. Memorize its location and be prepared to move independently to that location should you become separated from the remainder of the patrol.

b. Pass on the rally point location to other members of the patrol as necessary.

c. Conduct actions at the rally point according to your standard operating procedure or specific guidance provided by the patrol leader in his order. Normally, the senior man returning to a rally point will take charge of the patrol in the absence of the patrol leader.

3. Danger Areas. You must recognize, stop, and report terrain locations where your patrol will be particularly vulnerable to enemy direct fire, mines, or boobytraps.

a. Examples of these locations are--

(1) Suspected enemy positions.

(2) Fields or other large open areas.

(3) Linear obstacles such as roads, streams, fences, trails, etc.

(4) Built-up areas.

b. Avoid these areas when possible. If it is mission essential to cross such areas, apply the following techniques:

(1) Recon and secure the near side, flanks, and far side (in that order).

(2) Provide overwatching fires to other member of the patrol as they cross.

(3) Cross as cautiously and quickly as possible.

(4) Remove evidence of your crossing, such as footprints.

(5) Be prepared to move to near or far side rally points should your patrol be taken under fire when crossing.

4. Passing Up the Count. During limited visibility movement, this technique is used by the patrol leader to insure that all patrol members are present. Members of the patrol count off quietly from rear to front at periodic intervals (usually after crossing an obstacle or crossing other difficult terrain). You should listen for the following soldier's count and pass it quietly along to the soldier in front of you adding one to the count. Often, you will have to get your buddy's attention by touching him prior to whispering the count.

5. Be Alert. Make maximum use of all your senses to provide early warning of possible danger or enemy presence.

a. Constantly watch the terrain to your front, flanks, and rear for signs of movement and other unnatural terrain characteristics. See the enemy before he sees you.

b. Be attuned to the sounds of your environment and recognize other sounds which do not fit the general pattern.

c. Be sensitive to tripwires and other boobytraps so that you can react to avoid them.

d. Sense any unusual odors in the air, such as smoke, food, etc.

FM 31-11B-S

REFERENCES:

FM 21-75

071-331-0002

CONDUCT A LOCAL SECURITY PATROL

CONDITIONS:

You will be given a squad or fire team with TOE weapons and equipment and a mission to conduct a local security patrol. (Mission will specify departure and return times and exact locations to be reconnoitered.)

STANDARDS:

IAW the guidance given in the performance measures, conduct a local security patrol so that--

1. Patrol is organized, briefed, and equipped as necessary.
2. Patrol plan is developed and executed to meet the mission requirements.

PERFORMANCE MEASURES:

1. General. The most common type of patrol mission for the fire team or squad is to provide local security by reconnoitering avenues of approach, gaps between units, and areas that cannot be observed because of dead space. This prevents the enemy from infiltrating friendly positions and launching surprise attacks.

2. Planning and Preparation.

NOTE: Planning steps to be followed are as outlined in task number 071-331-0003, Plan a Patrol.

a. Mission. The unit commander will normally designate the routes and specific areas to be checked by the patrol. The mission guidance will usually provide the patrol with friendly direct and indirect fire support throughout its movement. The local security mission will cause the patrol to avoid contact when possible and limit its actions to watching for and reporting enemy or terrain information.

b. Organization (fig. 1). Because of the limited range and firepower requirement of this type patrol, the number of personnel involved is kept to a minimum (squad or fire team). Element and team organization may be modified as mission and personnel constraints dictate.

(1) General organization. Patrol will consist of a headquarters, a recon, and a security element.

(2) Special organization. Because of the simplicity and limited personnel involved in the patrol, special teams will be minimized. Special support such as demolitions, aid/litter, or POW teams can readily be provided by the nearby friendly unit should they be required.

c. Selection of men, weapons, and equipment. Maintenance of unit integrity will be the principal consideration in personnel selection. The patrol leader will usually take the men of the squad or team who are physically qualified and available. Special skill personnel will be provided by the unit commander if he assigns a mission requiring them. Individual weapons and equipment will be carried in accordance with normal patrol procedures.

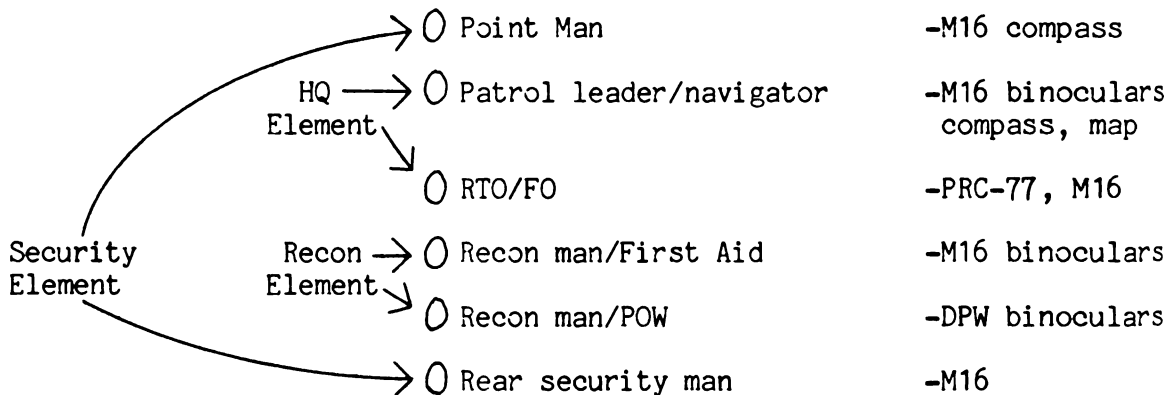
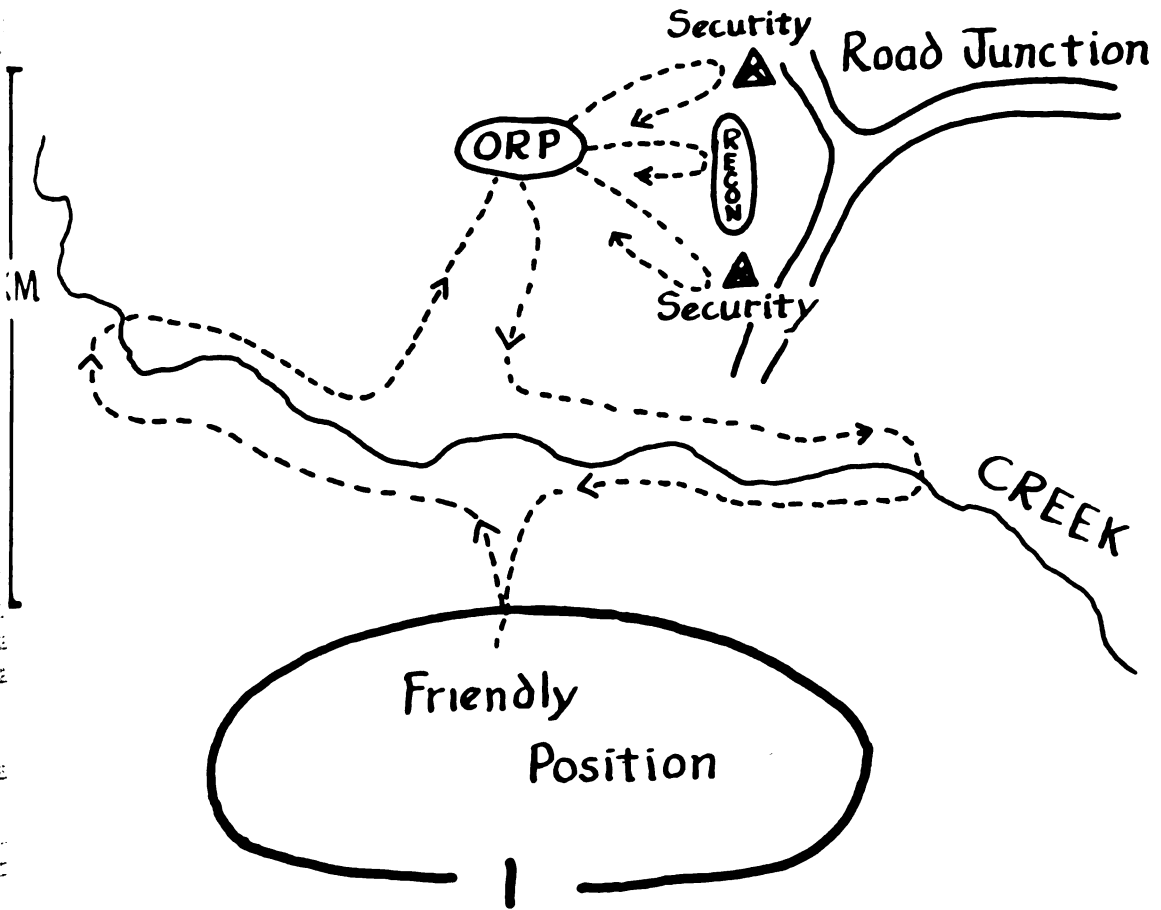


Figure 1. Example local security patrol organization.

d. Patrol plan. The patrol leader must tailor his scheme of maneuver to meet mission requirements. The standard area and zone patrolling techniques may be used or modified as necessary. For example, the patrol leader is given the mission of checking out the dead space along a creekbed to the front of the friendly position and to monitor activity at a road junction. Additionally, he is to look for signs of any enemy activity in the local area. The patrol leader might select a movement route as follows:



e. Contingency plans. Because of the limited strength and firepower of his patrol, the local security patrol leader must be extremely careful in dealing with enemy contact. The patrol must maximize its stealth and avoid or break contact when possible. Support from nearby friendly forces should be on standby to provide emergency reaction. Occasionally, the patrol might conduct a hasty ambush if the enemy strength is small and surprise and firepower superiority are assured. Such an ambush will normally be conducted only after reporting "SALUTE" information to the higher headquarters and instruction to ambush is returned.

REFERENCES:

- FM 7-7, The Mechanized Infantry Platoon and Squad, Sep 77 (chap 6, sec I, page 6-7)
- FM 7-10, The Infantry Company

071-331-0003

PLAN A PATROL

CONDITIONS:

You will be given a mission to conduct a reconnaissance or combat patrol; sufficient unit personnel to accomplish the mission; all their TOE weapons and equipment; and a requirement to plan, coordinate, and supervise the preparation of the patrol.

STANDARDS:

IAW guidance given in the performance measures--

1. Plan and use available time to accomplish the preparation of the patrol prior to specified departure time.
2. Develop a plan that specifies who, what, when, where, and how the patrol is to be conducted.
3. Issue a warning and operation order.
4. Supervise the preparation of the patrol to include inspection and rehearsal.

PERFORMANCE MEASURES:

Upon receipt of a mission to conduct a patrol, the patrol leader should accomplish the following actions (not necessarily in sequence):

1. Study the Mission. Develop a clear understanding of exactly what is to be accomplished by the patrol. For example, you are given the mission "Conduct an ambush patrol vic EN 134295 commencing 2400 tonight, return NLT 0500 tomorrow." Based on your analysis of the mission you realize that you must accomplish the following tasks:

- a. Passage of lines both upon exit and reentry of the friendly perimeter.
- b. Cross a river.

c. Set up an ambush.

2. Plan Use of Time. Make a mental or written schedule which allots time for each action to be accomplished by the patrol. Use the reverse planning sequence in which you start by allotting time to the last action to be accomplished by the patrol and work back to the time of receipt of your mission. For example:

0200 - - Return friendly area.
 2330 - 0200 - Movement en route.
 2300 - 2330 - Accomplish mission, reorganize.
 2230 - 2300 - Leader's recon.
 2000 - 2230 - Movement en route.
 2000 - - Depart friendly area.
 1945 - 2000 - Movement to departure area.
 1930 - 1945 - Final inspection.
 1845 - 1930 - Night rehearsals.
 1800 - 1845 - Day rehearsals.
 1745 - 1800 - Inspection.
 1700 - 1745 - Supper meal.
 1630 - 1700 - Issue patrol order.
 1530 - 1630 - Complete detailed plans.
 1430 - 1530 - Make reconnaissance.
 1415 - 1430 - Issue warning order.
 1330 - 1415 - Preliminary planning.
 - Coordinate.
 - Select men, weapons, equipment.
 - Organize the patrol.
 - Study terrain and situation.
 - Plan use of time.
 - Study the mission.
 - 1330 - Operation order received.

3. Study Terrain and Situation. During this analysis, the patrol leader identifies the critical factors which will influence his selection of a plan to accomplish the mission.

a. Terrain. Using a map, sketch, or aerial photograph, the patrol leader studies the terrain over which he must move the patrol for the following key elements (OCOKA):

- (1) Observation and fields of fire.
- (2) Cover and concealment.
- (3) Obstacles.
- (4) Key terrain.

(5) Avenues of approach.

b. Situation. The patrol leader studies the strengths, locations, dispositions, and capabilities of both friendly and enemy forces that may affect the patrol's operation. This analysis will enable the leader to plan routes more effectively, identify special personnel and equipment requirements, and understand the overall risks involved.

4. Organize the Patrol. Based on the previous analysis, the patrol leader determines the elements and teams that will be required to accomplish the mission. This organization is a two-step process--general organization and special organization.

a. General organization. This is the identification of the specific major elements that will be required. In addition to a patrol headquarters, the patrol leader will decide what reconnaissance, security, support, and assault elements he needs to do the job. This organization will vary depending on the type patrol to be conducted. (For specific guidelines on various patrol organizations, refer to the tasks dealing with the type patrol desired.)

b. Special organization. This is the identification of the specific teams which will be part of each major element in the general organization. Depending on the mission and type patrol, the patrol leader will decide what types and how many assault, support, search, demo, and PW teams he needs.

5. Select Men, Weapons, and Equipment. The patrol leader must decide what he needs to get the job done.

a. Men. Identify the special skills needed while on the patrol. Consider taking along an aidman, RTO, FO, demolition specialist, etc. Insure the men are healthy and physically qualified, and maintain unit integrity when possible.

b. Weapons. Take what is necessary to meet the threat and accomplish the mission. Insure men are qualified on the weapons they carry. Often it might be impractical to carry "nice to have" weapons because of the weight and ammunition requirements.

c. Equipment. Consider carrying the following types of equipment:

(1) Routine equipment. This is the basic equipment worn or carried by all patrol members.

(2) Objective area equipment. Equipment needed at the objective such demolitions, ropes, grenades, etc.

(3) En route equipment. This is what you will use to move to and return from the objective such as maps, binoculars, flashlights, boats, ropes, etc.

(4) Control equipment. This includes whistles, pyrotechnics, radios, etc.

(5) Water and food. Each man should carry water. Rations will be dependent on the anticipated length of the patrol.

6. Issue a Warning Order. This preliminary order gives subordinate leaders and members of the patrol a chance to make preparations while the patrol leader continues his planning and coordination. A warning order follows the following outline.

PATROL WARNING ORDER

The patrol warning order consists of the following:

- a. A brief statement of the situation.
- b. Mission of the patrol.
- c. General instructions:
 - (1) General and special organization.
 - (2) Uniform and equipment common to all.
 - (3) Weapons, ammunition, and equipment.
 - (4) Chain of command.
 - (5) A time schedule for the patrol's guidance.
 - (6) Time, place, uniform, and equipment for receiving the patrol order.
 - (7) Times and places for inspections and rehearsals.
- d. Specific instructions:
 - (1) To subordinate leaders.
 - (2) To special purpose teams or key individuals.

Give the warning order as early as possible to provide maximum advance warning and preparation time to subordinates.

7. Coordinate (Continuous Throughout). The patrol leader must insure that coordination has been effected with all agencies external to the patrol which might influence or be influenced by the actions of the patrol. Examples of coordination that must be made are--

a. Friendly unit. Coordinate the specifics of your entry and exit of friendly lines with the unit involved. Also, inform other units near or through which you might be moving to insure that you will not be delayed or accidentally taken under fire.

b. Fire support. Check on utilization of all available direct and indirect fires which might be available to protect or otherwise assist mission accomplishment.

8. Make Reconnaissance. Visual reconnaissance confirms, clarifies, and supplements information provided by maps, aerial photos, and other sources.

a. Conduct aerial reconnaissance if aircraft is tactically possible.

b. Conduct ground reconnaissance of as much of the terrain as time and circumstances permit.

c. Take key subordinate leaders on the reconnaissance. They will better understand the plan and more effectively prepare and brief their subordinates. Solicit their ideas and comments prior to finalizing the plan.

9. Complete Detailed Plan. Based on all of the previous analysis, the patrol leader decides how he will accomplish his mission to include the following major determinations:

a. Missions in the objective area.

b. Other missions.

c. Times of departure and return.

d. Primary and alternate routes.

e. Plan for departure and reentry of friendly areas.

f. Organization for movement (formation, location of individuals, teams, and elements within it).

- g. Actions at danger areas.
- h. Actions on enemy contact.
- i. Rally points and actions at rally points.
- j. Actions in the objective area. •
- k. Debriefing.
- l. Rehearsals and inspections.
- m. Rations.
- n. Arms and ammunition.
- o. Uniform and equipment.
- p. Method for handling dead, wounded, and PWs.
- q. Signals/communications.
- r. Challenge and password.
- s. Chain of command.
- t. Location of leaders.

10. Issue Patrol Order. The patrol leader orally presents the plan to his subordinates using the standard format as follows:

PATROL ORDER

1. SITUATION (as it affects the patrol).

a. Enemy forces: Weather, terrain, identification, location, activity, and strength.

b. Friendly forces: Mission of next higher unit, location and planned actions of units on right and left, fire support available for patrol, missions, and routes of other patrols.

c. Attachments and detachments.

2. MISSION. What the patrol is going to accomplish and the location or area in which it is to be done.

3. EXECUTION.

a. Concept of operation. the overall plan; missions of elements, teams, and individuals in the objective area; and fire support plan.

b. Other missions, not in the objective area, for example, teams, and individuals. Included are such tasks as navigation, security during movement, and security at halts.

c. Coordinating instructions.

- (1) Times of departure and return.
- (2) Primary and alternate routes.
- (3) Departure and reentry of friendly areas.
- (4) Organization for movement.
- (5) Actions at danger areas.
- (6) Actions on enemy contact.
- (7) Rallying points and actions at rallying points.
- (8) Actions in the objective area.
- (9) Debriefing.
- (10) Other actions.
- (11) Rehearsals and inspections.

4. ADMINISTRATION AND LOGISTICS.

a. Rations.

b. Arms and ammunition.

c. Uniform and equipment (state which members will carry and use).

d. Method of handling wounded and prisoners.

5. COMMAND AND SIGNAL.

a. Signal.

- (1) Signals to be used within the patrol.

(2) Communication with higher headquarters. Radio call signs, primary and alternate frequencies, times to report, and special code to be used.

(3) Challenge and password.

b. Command.

(1) Chain of command.

(2) Locations of leaders at various times--during movement, at danger areas, at the objective.

11. Supervise, Inspect, and Rehearse.

a. Supervise. Supervision is a continuous procedure exercised by leaders at all echelons to insure that the preparation is completed in an efficient and timely manner.

b. Inspect. This action insures that patrol members are both physically and mentally ready. Form the patrol at a specific location and systematically check the men to insure that they--

(1) Have the proper equipment and are dressed in accordance with instructions.

(2) Have a thorough understanding of their personal tasks and the tasks of their team, element, and of the patrol.

(3) Know the other important details of the mission such as challenge and password, codes, radio call signs, visual signals, etc.

c. Rehearse. As time permits, the patrol should rehearse actions in the objective area, movement, and any other critical tasks to be accomplished. This procedure will insure that all members really understand their tasks and will increase their proficiency at performing them.

REFERENCES:

FM 21-75

FM 7-7, The Mechanized Infantry Platoon and Squad, Sep 77 (chap 6 sec I, pages 6-1 thru 6-8)

071-331-0802

PROCESS KNOWN OR SUSPECTED ENEMY PERSONNEL

CONDITIONS:

Given an area with friendly civilians and other friendly elements, two surrendering enemy personnel with weapons (rifles, bayonets, pistols, etc.) and military documents, a designated prisoner of war (PW) collection point 200 meters to the rear, and PW tags.

STANDARDS:

Within 15 minutes, without letting the prisoners talk to each other and without letting anyone harm them, remove all weapons and documents except individual identification, date, time, and circumstances of capture; and turn the prisoners' weapon and documents over to the collection point.

PERFORMANCE MEASURES:

Suspected or known enemy personnel must be handled under the following rules:

a. SEARCH prisoners (fig. 1) for weapons and documents as soon as you capture them. Take weapons to prevent resistance and take documents, except individual identification papers, to prevent the prisoners from destroying them. Prisoners from whom personal property is taken, including personal documents, should be given a written receipt for property. Allow prisoners to keep items needed for their general welfare or safety such as a protective mask.

SEARCH

Figure 1

2. SEGREGATE them into groups (fig. 2)--officers, noncommissioned officers, privates, deserters, civilians, females, and political indoctrination personnel. This prevents the leaders from organizing for a mass escape and from making the rest of the prisoners security-minded.

SEGREGATE

Figure 2

3. SILENCE (fig. 3) is essential. Do not allow prisoners to talk to each other. This helps to prevent plans of escape.



Figure 3

4. SPEED (fig. 4) prisoners of the rear. The information they have does no good until obtained by an interrogator and processed.



Figure 4

5. **SAFEGUARD** the prisoners (fig. 5) as you take them to the rear. Do not allow anyone to abuse them, but do not allow anyone to give them cigarettes, food, or water.

SAFEGUARD



Figure 5

6. **TAGGING.** A PW tag should include the capturing unit (a complete unit identification), date and time of capture, place of capture (grid coordinates or reference from a known point), and circumstances of capture (how PW was captured). The same format is used for documents and equipment except that circumstances identify where documents or equipment came from (i.e., from PW Ivan Schmidt, "found on dead enemy soldier," etc.) (fig. 6).

NOTE: Tags may be printed before combat or made out of materials at hand on the battlefield.

	TYPE DOCUMENT EQUIPMENT _____
	DATE/TIME CAPTURED _____
	PLACE OF CAPTURE (GRID COORDINATES) _____
	CAPTURING UNIT _____
	CIRCUMSTANCES OF CAPTURE (HOW IT HAPPENED) _____

Figure 6

REFERENCES:

FM 21-75

TEC Lesson 935-071-1028-F, Processing Captured Personnel, Equipment,
and Documents

071-331-0806

IDENTIFY OPPOSING FORCE (OPFOR)
ARMORED VEHICLES

CONDITIONS:

During a field training exercise or in a classroom or suitable area in garrison, given a mockup, model, or photograph of opposing force (OPFOR) vehicles.

STANDARDS:

1. ALL SOLDIERS. Identify each vehicle observed as being either friendly or opposing forces.
2. 11B SCOUT OR NCO. Identify each vehicle observed by NATO nomenclature and state primary combat role of each.

PERFORMANCE MEASURES:

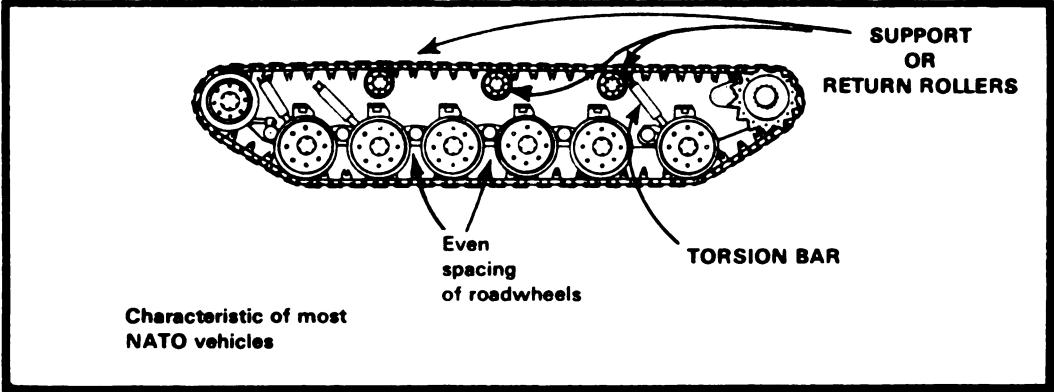
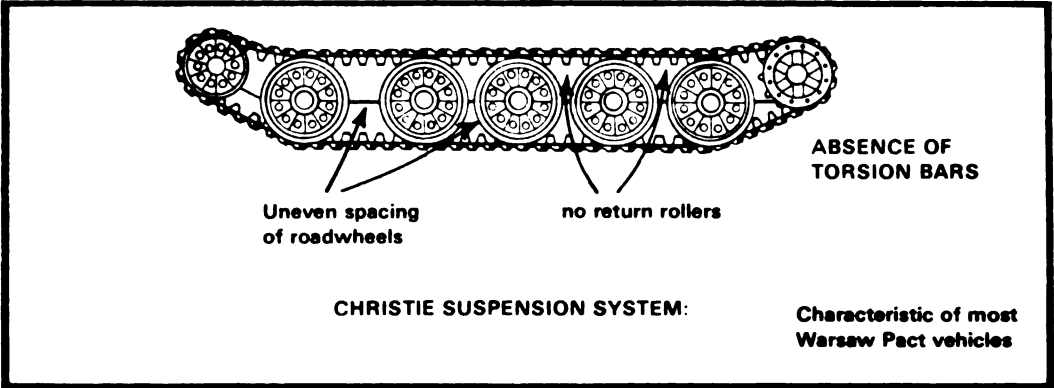
Tank Characteristics.

1. Identification. Tank identification is designed around four areas common to all tanks--

- a. Track and suspension system.
- b. Turret.
- c. Main gun.
- d. Cupola.

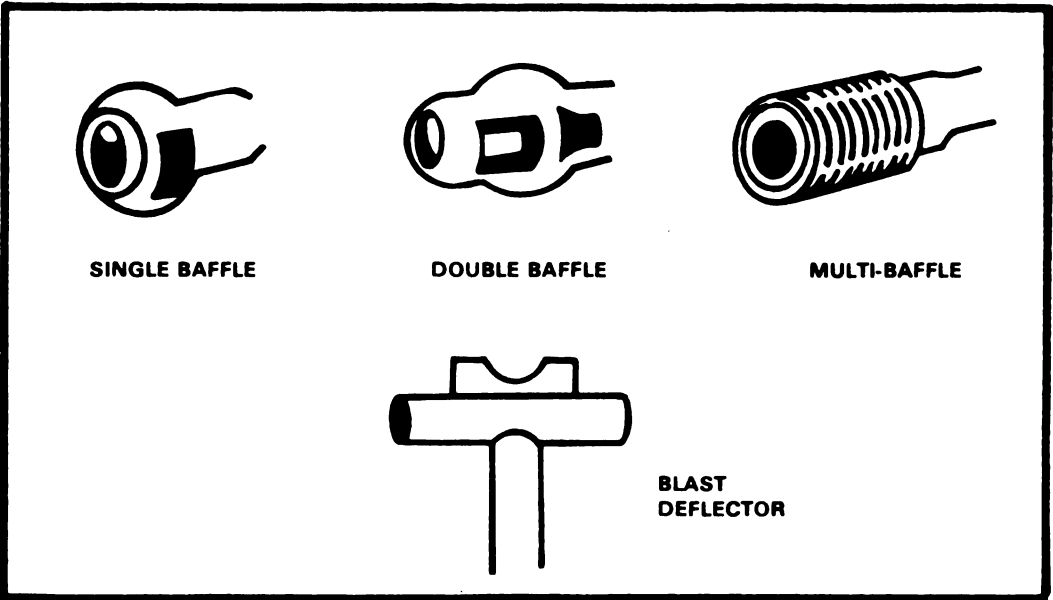
2. Track and Suspension System. Many tanks may be recognized by their track and suspension systems. However, recognition by this feature alone is often difficult as the tracks will often be obscured by grass or other objects. To identify the track and suspension system, check to see if it has support or return rollers. Except for the T-10, M-1970, and T-72 tanks, most Warsaw Pact vehicles do not have these rollers.

NOTE: When using this method to help identify tanks, keep in mind that the M551 Sheridan in the US Army also has no return rollers.
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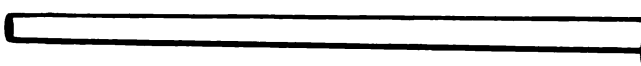


3. Main Gun. Armament varies from machineguns to large cannons. In turreted vehicles, the heaviest armaments is normally in the turret. Look for--

a. Muzzle brakes.



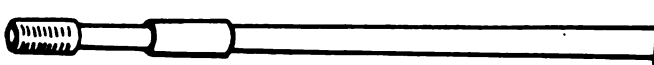
b. Main gun bore evacuator and its location.



MAIN GUN WITHOUT BORE EVACUATOR

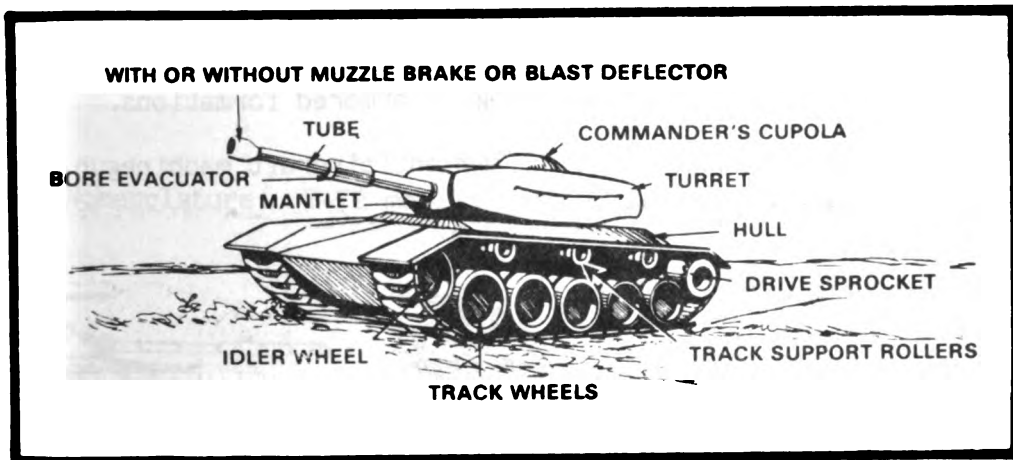


MAIN GUN WITH BORE EVACUATOR



MAIN GUN WITH BORE EVACUATOR AND
MUZZLE BRAKE/BLAST DEFLECTOR

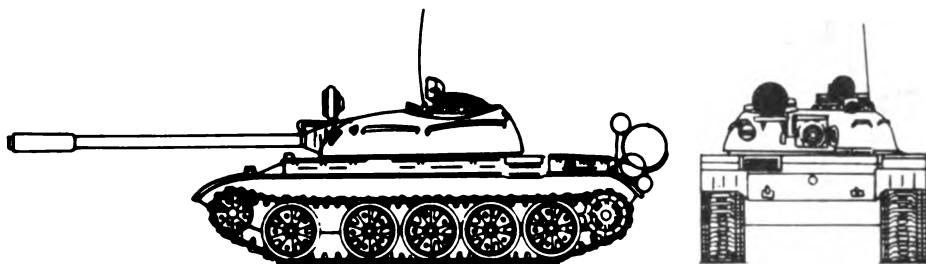
Note these common identification characteristics of both friendly and threat tanks:



TANKS

Threat main battle tanks are smaller than the US main battle tank. They have a cruising range of about 300 miles without auxiliary fuel and can attain speeds of about 30 mph. Threat tank fire control is relatively simple compared to that of US tanks. Currently, they mount no rangefinder similar to those on US tanks. Most Threat main battle tanks are equipped with active infrared (IR) night viewing devices, and have a superior underwater snorkeling capability.

NATO Nomenclature: T-55 tank.



Recognition features: Fully tracked; five-roadwheeled; space between first and second roadwheels; low-silhouetted, sloped hull; dome-shaped turret mounted over third roadwheel; bore evacuator at muzzle; infrared headlights; infrared searchlight for gun; seven variations of this model exist.*

Main gun range: 1,500 meters

Speed: 50 km/hr

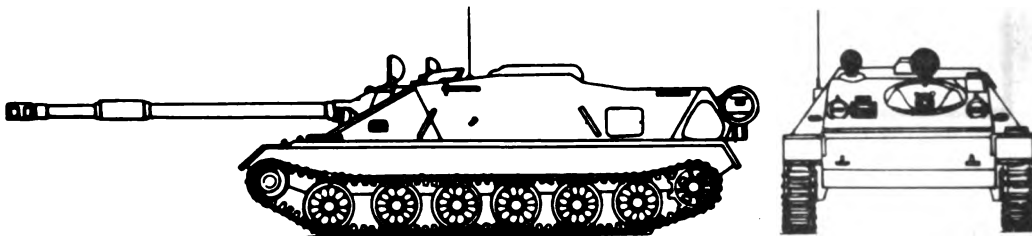
Range: 500 km

Users: India, Israel (with 105mm gun), People's Republic of China, United Arab Republic, USSR, Warsaw Pact

Employment: Medium battle tank in armored formations.

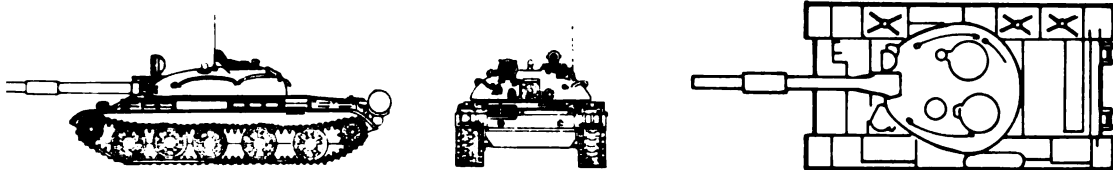
*T-55 and T-55A may mount 12.7mm antiaircraft machinegun.

NATO Nomenclature: ASU-85.



The ASU-85 airborne assault gun provides armored striking power to airborne forces. Although not amphibious, the ASU-85 chassis is based on that of the PT-76 tank. Its armament is an 85mm main gun and a 7.62mm coaxial machinegun. The ASU-85 mounts a large gunner's infrared searchlight above the mantlet and carries a small commander's light.

NATO Nomenclature: T-62 tank.



Recognition features: Fully tracked; five-roadwheeled; flat, low-silhouetted hull; dish-shaped turret over third roadwheel; no muzzle brake; bore evacuator three-fourths to muzzle.

Armament: One 115mm main gun
One 7.62mm machinegun (coaxial)
One 12.7mm antiaircraft machinegun

Main gun range: 2,000 meters

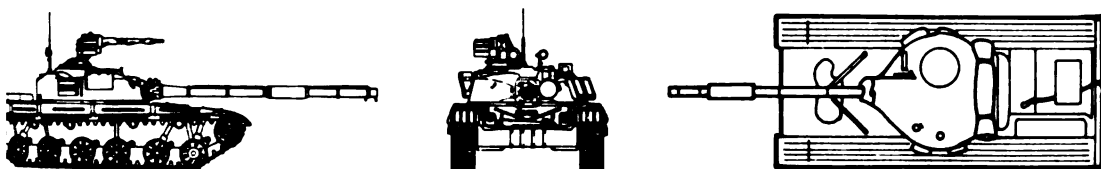
Speed: 50 km/hr

Range: 500 km

Users: United Arab Republic, USSR, Warsaw Pact

Employment: Main battle tank (medium) in armored formations.

NATO Nomenclature: T-72 medium tank.



Recognition features: Live track, complete with support rollers, centerguides, end connectors, and probable torsion bar suspension. Glacis plate is gently sloping and has a "V" shaped splash guard directly in front of driver's position; external fuel cells down both sides of tank; three equal size storage boxes on left hand side of the turret, and two unequal size storage boxes on the right hand side of the turret. Main gun has bore evacuator about one-third down the gun tube from the muzzle end.

Armament: One 115mm main gun
One 12.7mm antiaircraft machinegun (turret roof-mounted)
One 7.62mm machinegun (coaxial)

Main gun range: 2,000 meters (approximately)

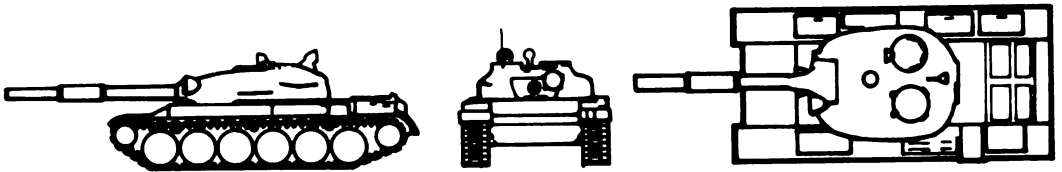
Speed: 55 km/hr

Range: 500 km (approximately)

Users: USSR

Employment: Main battle tank in armored formations.

NATO Nomenclature: M-1970 medium tank.



Recognition features: Six evenly spaced roadwheels; well-sloped glacis plate; infrared unit on left of gun; driver's hatch right of turret; bore evacuator first third of turret near muzzle.

Armament (probable):
One 115mm gun (smoothbore)
One 7.62mm machinegun (coaxial)
One 12.7mm antiaircraft machinegun

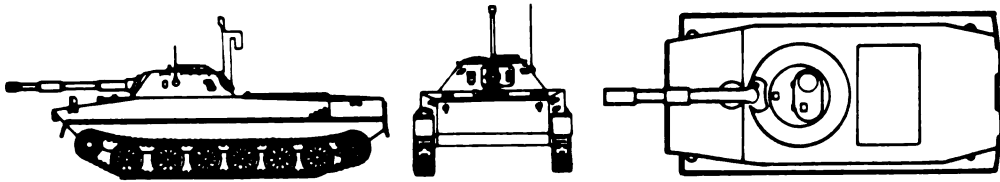
Speed: 60 km/hr (approximately)

Range: 500 km (approximately)

Main gun range: 2,000 meters

Employment: Armored formations; possible replacement for T-62.

NATO Nomenclature: PT-76 amphibious tank.



Recognition features: Fully tracked; six-roadwheeled; rectangular-shaped hull with a boat-like front; dish-type turret mounted over second roadwheel; chassis similar to BTR-50P; muzzle brake on main gun; bore evacuator close to muzzle.

Armament: One 76mm main gun
One 7.62 machinegun (coaxial)
One 12.7mm machinegun antiaircraft (on some versions)

Speed: 45 km/hr (land)
10 km/hr (water)

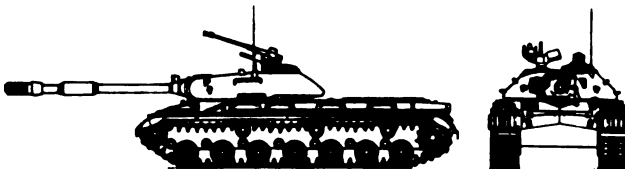
Range: 250 km

Main gun range: 1,000 meters

Users: People's Republic of China, United Arab Republic, USSR, Warsaw Pact

Employment: Amphibious reconnaissance tank; personnel movement (up to six plus crew) in maneuver divisions and regiments.

NATO Nomenclature: T-10.



The T-10 heavy tank is rarely seen in Threat forward areas. This tank stays in the rear and is used in counterattacks or with tank killer units. It is equipped with infrared sights or devices for all crewmembers and has seven pairs of roadwheels. Its primary weapon is a 122mm stabilized gun firing kinetic energy armor-piercing cap and chemical energy high explosive antitank ammunition. It has two 12.7mm machineguns, one for antiaircraft and another mounted coaxially with the main gun.

Strengths. The strengths of Threat main battle tanks are--

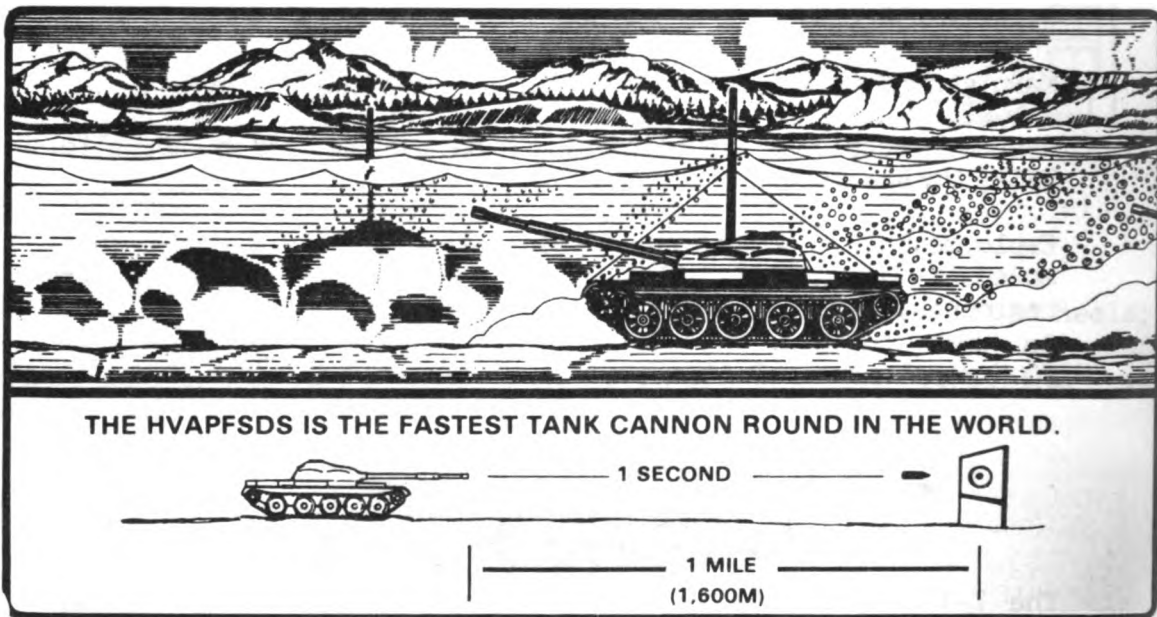
Low silhouette, which makes them harder to hit.

Simple fire control, which makes them easier to operate and maintain.

Infrared night vision devices, which increase effectiveness at night.

Underwater snorkeling, which permits them to cross water barriers quickly.

The high-velocity 115mm APFSDS tank-defeating round, which travels a mile every second. The accuracy of this round gives T-62 tank crews a 50 percent chance of hitting a stationary target in the open with the first round at ranges to 1,500 meters, or a moving target traveling at a constant speed in the open at ranges to 1,000 meters.



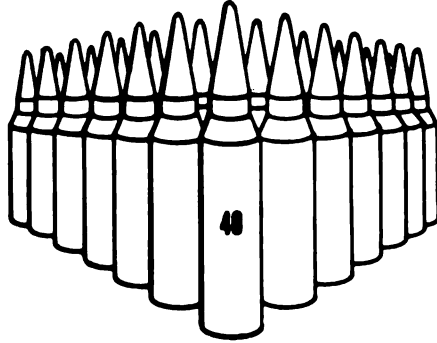
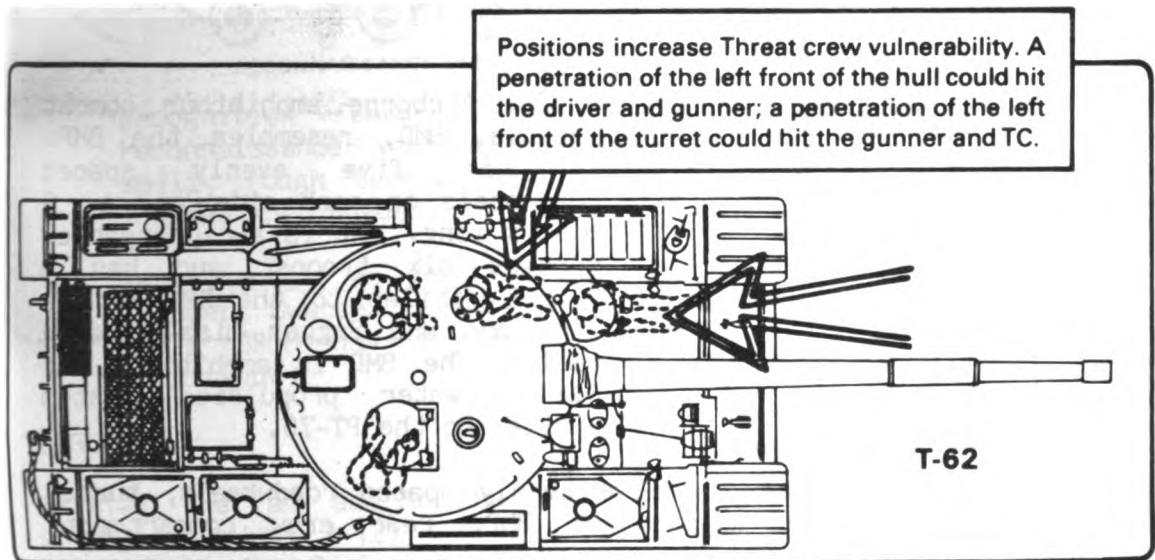
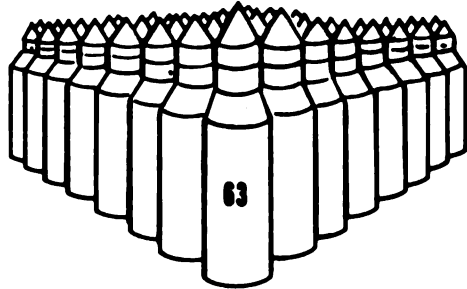
Weaknesses. The weaknesses of Threat main battle tanks are--

Threat tank fighting compartments are considerably smaller than those in US tanks. The crew is cramped, and freedom to move is restricted. Crew fatigue can therefore be a bigger factor in Threat tanks.

Smaller turret interior and larger (115-mm) main gun ammunition means that Threat tanks have a slower rate of fire than US tanks.

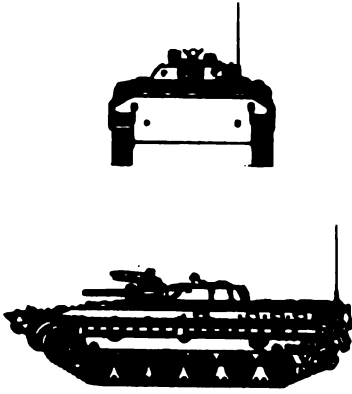
Because of its small fighting compartment, the T-62 tank has 23 fewer rounds of main gun ammunition than the M60A1. Therefore, in tank duels Threat tanks may run out of ammunition sooner than US tanks.

Some main gun ammunition is strapped along the turret walls, and hits above the turret ring may cause secondary ammunition explosions.

T-62**M60A1**

INFANTRY COMBAT VEHICLES

NATO Nomenclature: BMP.

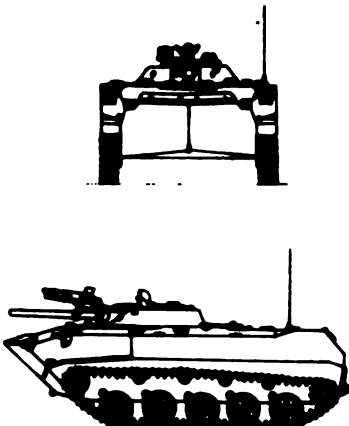


The amphibious BMP is used as both a reconnaissance and an armored fighting vehicle. The armored infantry version of the BMP has a crew of three--gunner, driver, and vehicle commander--and has a rear compartment troop capacity of eight. There are four periscopes and firing ports on each side allowing the infantry to fire from inside the vehicle while on the move. Its main armament is a 73mm smoothbore gun with a Sagger missile rail mounted over the gun. A 7.62mm PKT coaxial machinegun is mounted on the turret. Each BMP has racks for two Sagger missiles.

Recognition features: Six-roadwheeled, tracked, amphibious, ICV; engine in front; two doors in rear; four hatches in top of crew compartment; low silhouette with flat revolving turret. (May have Sagger mounted above gun.)

Employment: Motorized rifle units.

NATO Nomenclature: BMD



The Airborne amphibious combat vehicle, BMD, resembles the BMP. It has five evenly spaced roadwheels on each side and is 5 meters long. It is air droppable, carries six troops, and has a turret similar to the BMP with a 73mm gun and Sagger missile launch rail. The BMD is amphibious and has a water propulsion system similar to the PT-76.

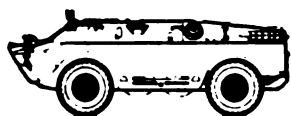
Recognition features: Five evenly spaced roadwheels; turret mounts the same as on the BMP; rear crew compartment, amphibious.

Employment: Motorized rifle units.

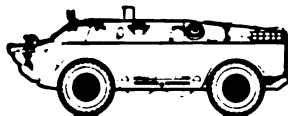
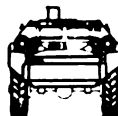
SCOUT VEHICLES

NATO Nomenclature: BRDM-2.

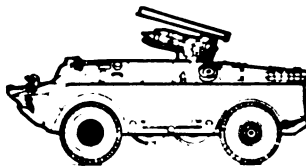
The BRDM-2 is a four-wheel drive amphibious scout car adaptable for many uses on the battlefield. It can be used as a command vehicle, an NBC test vehicle, an antiarmor vehicle, or an ADA vehicle. Cross-country mobility is improved by a centralized tire pressure regulation system, and by four retractable auxiliary drive wheels located under the center of the vehicle which can be lowered to aid flotation and help in crossing gaps. The rear-mounted power plant is improved over that of the first BRDMs. Its armament is a turret-mounted 14.7mm machinegun. Its armament in the basic reconnaissance car is two machineguns mounted on the turret.



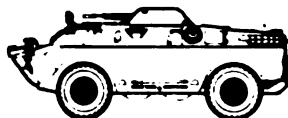
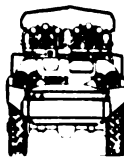
BRDM-2

CHEMICAL RECONNAISSANCE
VEHICLE

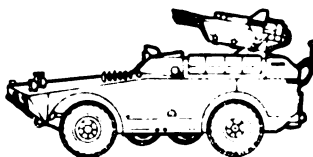
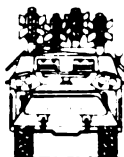
COMMAND VEHICLE



ATGM LAUNCHER



RECONNAISSANCE CAR

ANTIAIRCRAFT MISSILE
LAUNCHER

Recognition features: Four-wheeled, amphibious, armored reconnaissance vehicle; has full armored cover; has four small, rough terrain belly wheels that may be raised or lowered when needed.

Employment: As scout car in different variants; can mount Snapper, Swatter, or Sagger antitank missiles. Two versions: basic BRDM has a 7.62mm machinegun; BRDM-2 has a 14.5mm machinegun.

REFERENCES:

FM 71-1, The Tank and Mechanized Infantry Company Team, Jun 77 (chap 2, pages 2-1 thru 2-12)
TC 30-3, Soviet Equipment Recognition Guide, Apr 75 (pages 25 thru 44)

071-331-0808

IDENTIFY OPPOSING FORCE (OPFOR)
WEAPONS AND EQUIPMENT

CONDITIONS:

Given a mockup, model, or photograph of OPFOR and NATO weapons and equipment.

STANDARDS:

Identify each weapon and piece of equipment by NATO nomenclature and as being friendly or Threat.

PERFORMANCE MEASURES:

1. Threat small arms are characterized by their heavy weight and high reliability. Emphasis is placed on simplicity of design for easy training, handling, and maintenance. Their automatic weapons are generally shorter than US models for use from inside APCs.

2. The standard Threat side arm is the 9mm Makarov semiautomatic pistol (PM), which uses an eight-round magazine (fig. 1).



Characteristics:

Length: 106mm

Weight: 0.81 kg

Effective range: 50 m

Magazine capacity: 8 rounds

Identifying features: Star on butt; weapon has a double-action trigger.

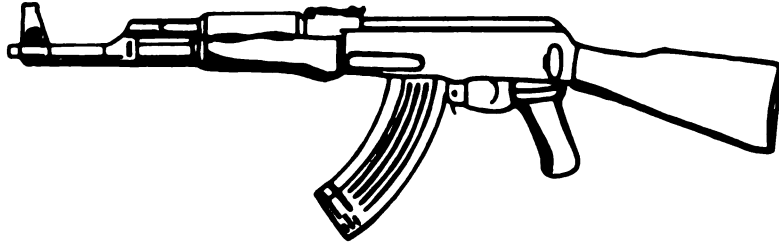
THREAT RIFLES AND MACHINEGUNS

1. Rifles:

- a. AKM--7.62mm assault rifle.

NATO Nomenclature: AK (Knashnikov).

Identifying features: Gas cylinder above the barrel.



- b. AKMs--This new version has a folding stock.

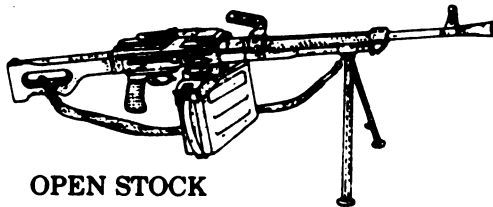


NOTE: Characteristics and identifying features same as AKM except for folding stock.

2. PK Series 7.62 General Purpose Machinegun:

NOTE: This machinegun appears in two versions.

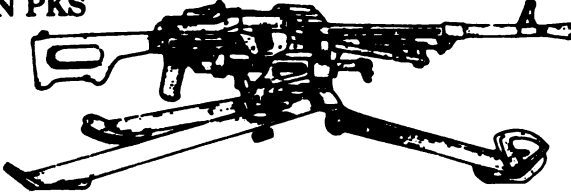
- a. The bipod-mounted PK used at the squad or company level.



OPEN STOCK

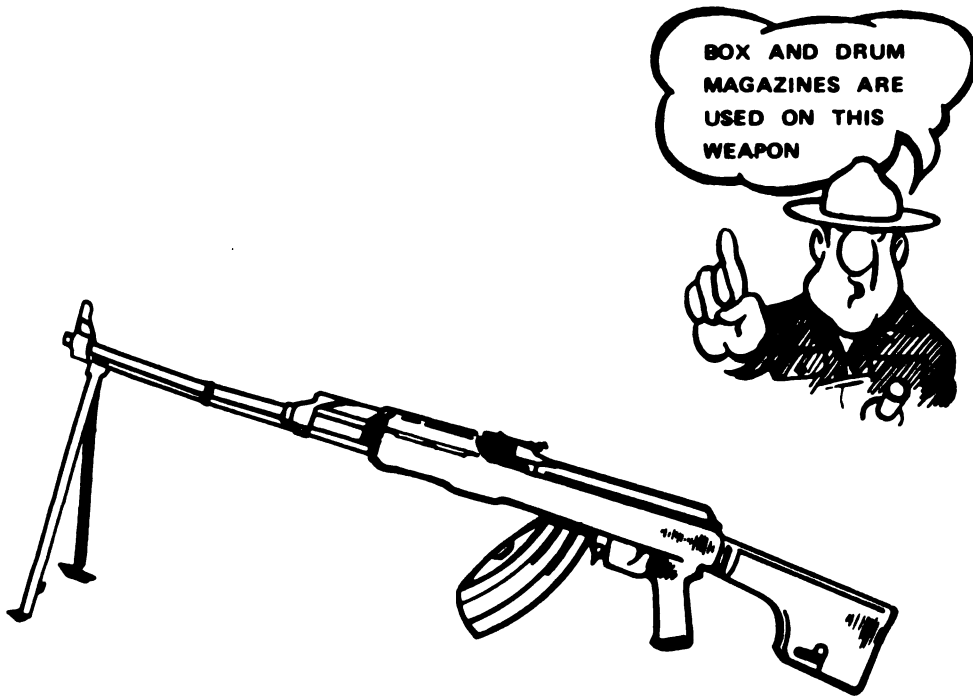
NATO Nomenclature: PK general purpose machinegun.

**GAS CYLINDER
BELOW BARREL
ON PKS**



b. The tripod-mounted PKS used as an antiaircraft.

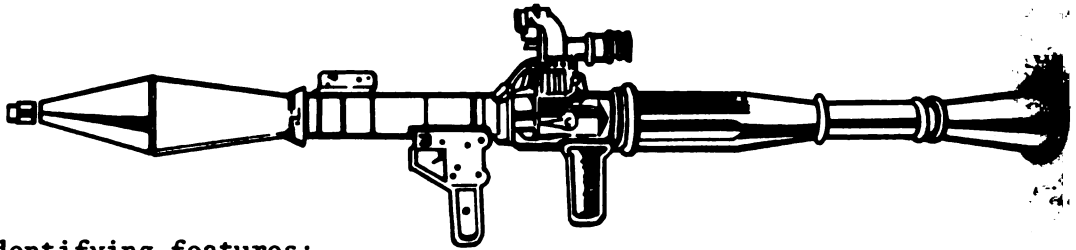
NATO Nomenclature: RPK 7.62mm light machinegun.



ANTITANK WEAPONS

In addition to large numbers of armored vehicles, Threat forces can be expected to saturate the battlefield with rocket-propelled grenades (RPGs), recoilless guns, and antitank guided missiles (ATGMs).

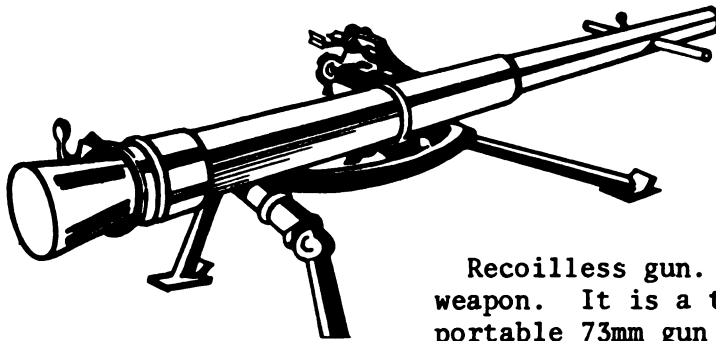
NATO Nomenclature: RPG-7.



Identifying features:
Two handgrips, large optical sight, and a flared cone on the end.

Rocket-propelled grenades. RPGs are shoulder-fired infantry antitank weapons; current models are effective to 500 meters.

NATO Nomenclature: SP-G-9 73mm antitank recoilless gun.



Identifying features:
Cone shape on the breech end.

Recoilless gun. The SP-G-9 is a weapon. It is a tripod-mounted, portable 73mm gun with a locked breech.

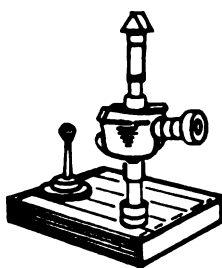
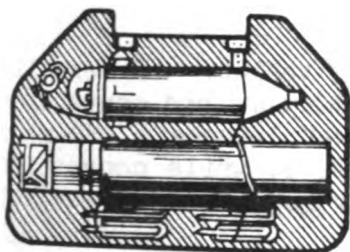
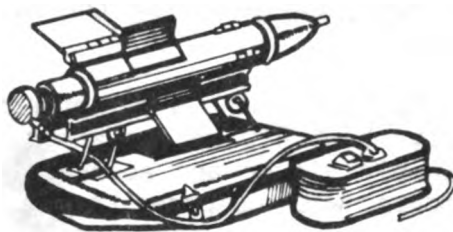
Antitank Guided Missiles. Threat forces have deployed two types of ATGMs in large numbers: the Sagger is wire-guided and thus invulnerable to electronic countermeasures (ECM); the Swatter is radio-guided and vulnerable to ECM.

ATGMs are highly accurate to 3,000 meters. They are highly mobile and can defeat all known armor.

Missiles can be mounted on BMPs, BMDs, BRDM-2s, and helicopters.

"Suitcase" Saggers can be man-packed and ground-mounted. In this version, the Sagger is easily carried by its crew. Its light weight and small size make it easy to transport, set up, and camouflage.

NATO Nomenclature: Sagger.



The Sagger is a wire-guided antitank missile with an effective range of 3,000 meters. A three-man team carries the portable launcher, the fire control equipment, and two complete missiles. Gunner normally displaces 15 meters from the missile during firing. In-flight identification: Look for smoke and flare trail.

Strengths. The main strengths of Threat ATGMs are--

Long-range accuracy and lethality, which permit them to hit and defeat all known armor up to 3,000 meters away.

Versatility of employment, which enables ATGMs to be fired while crewmen are buttoned up and, in the case of the Sagger on a BRDM-2, at a remote position up to 80 meters from the vehicle. The "suitcase" Sagger may be remotely fired from a position up to 15 meters from the launching rail.

Weaknesses. In spite of their reliability, mobility, and long-range effectiveness, Threat ATGMs have weaknesses.

Gunners must have good visual contact with both target and missile during flight. Threat ATGMs are not effective at night. US cavalrymen who move behind cover, obscure themselves by smoke, or conceal themselves in vegetation reduce Threat missile and rocket hit probability. Bushes can break Sagger guidance wires, causing loss of missile control. Trees or heavy brush can detonate an ATGM warhead.

Gunners must be highly trained. Threat ATGM gunners must simultaneously track both target and missile with an optical viewer, while flying the missile with a "joystick" on a control box.

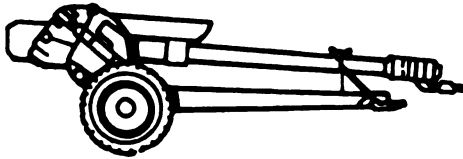
Missiles have a minimum range limitation. The missile has to fly about 500 meters after launch for the gunner to capture it in his viewer and accurately fly it to target. It is also slow moving when compared to the TOW.

ARTILLERY

Threat forces are equipped with a variety of excellent artillery weapons, from light and heavy mortars and conventional field guns and howitzers to multiple rocket launchers (MRLs) and missiles. MRLs can deliver saturation fire, while conventional artillery fires against targets of opportunity and preselected targets.

The most common field pieces are 122mm and 152mm towed howitzers. The maximum range of the 122mm howitzer is 15,300 meters, and its rate of fire is 7 to 8 rounds per minute.

NATO Nomenclature: 122mm howitzer, D-30.

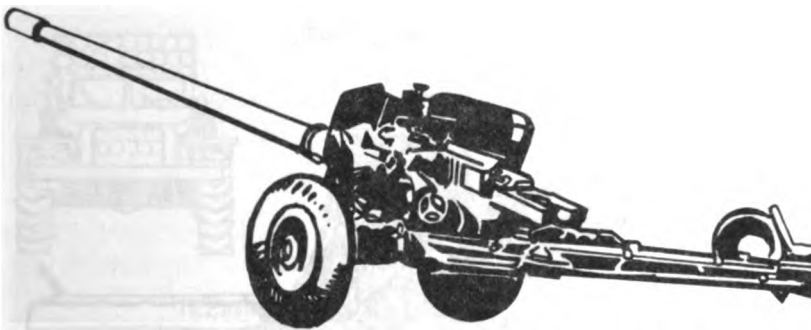


122mm howitzer, D-30

Recognition features: Three-trailed configuration; trails fold together and attach to tube for travel; towed by muzzle.

Employment: Direct support of maneuver company or battalion (regimental artillery battery and divisional artillery); weapon should appear 1 to 4 km behind the forward edge of the battle area in offense or 2 to 7 km in defense, depending on unit of assignment.

NATO Nomenclature: 100mm AT gun, T-12.

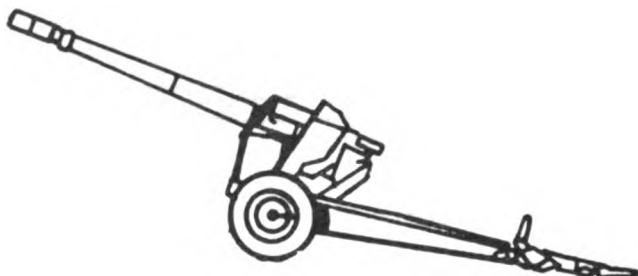


100mm antitank gun, T-12/T-12A

Recognition features: Long tube with cylindrical "pepperpot" muzzle brake; single castor wheel near trail ends; winged shield angled to rear on either side, T-12A only; added cylinder to right and above breech.

Employment: Support of maneuver battalion; weapon should appear approximately 0.2 to 0.5 km behind forward edge of the battle area in offense and 0.2 to 2.0 km in defense.

NATO Nomenclature: 152mm gun howitzer, D-20.

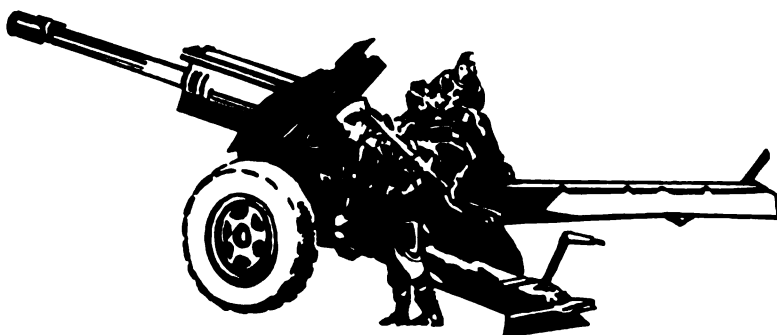


152mm gun howitzer, D-20

Recognition features: Prominent baseplate connected to bottom forward cradle for travel (same carriage as D-74); castor wheels and jacks at each trail end; scalloped winged shield with traveling central portion; shorter, larger diameter tube than D-74 with similar double-baffle winged, muzzle brake.

Employment: Weapon should appear 3 to 5 km behind the forward edge of the battle area in offense or 4 to 8 km in defense; organic to artillery battalions and regiments.

NATO Nomenclature: 152mm howitzer, D-1.



152mm howitzer, D-1

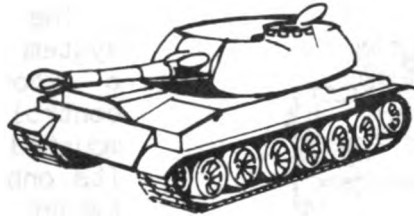
Recognition features: Essentially same appearance as the 122mm howitzer, M-30 (M1938) except larger diameter tube and added double-baffle muzzle brake.

Employment: Weapon should appear 2 to 3 km behind the forward edge of the battle area in offense and 3 to 5 km in defense; organic to artillery units at combined arms army/division level.

Threat forces have recently been equipped with two new mobile artillery pieces--122mm and 152mm self-propelled (SP) guns. The 122mm SP gun is mounted on a tracked carriage which resembles the hull of the BMP personnel carrier and running gear of the PT-76 tank. The gun is mounted in a turret with compartments and hatches for both gunner and commander. Not much is known about the 152mm SP.

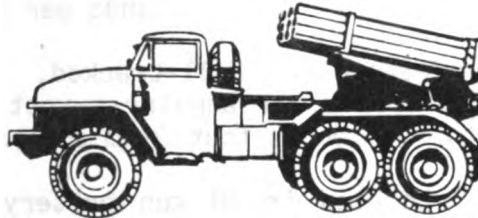


122mm SP gun



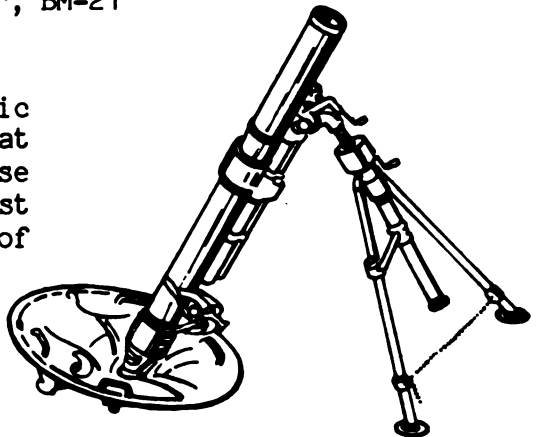
152mm SP gun

Threat forces usually use the multiple rocket launcher (MRL) for area coverage. These weapons are available in many sizes, but the most common is the 122mm truck-mounted launcher, which can rapid fire up to 40 rounds at ranges out to 20,000 meters.



122mm rocket launcher, BM-21

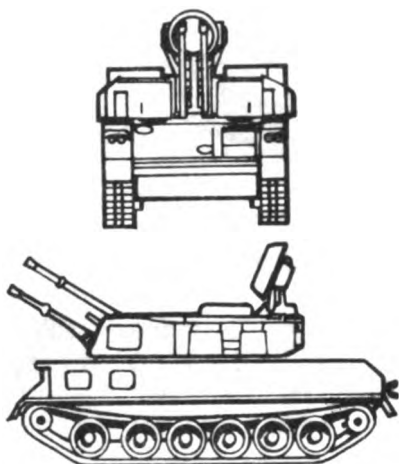
Threat mortars have the same basic support missions as US mortars. Threat mortars are almost the same as those found in US forces. One of the largest is the 120mm mortar with a range of 5,700 meters.



120mm mortar

ANTIAIRCRAFT ARTILLERY AND MISSILES

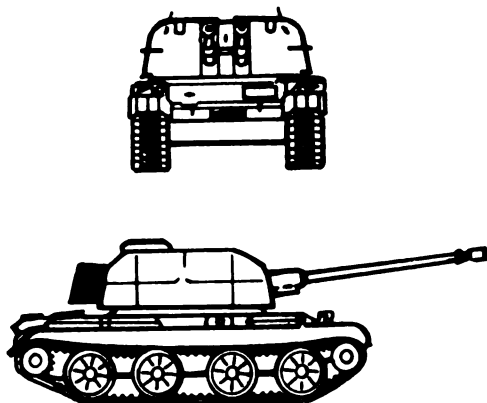
Antiaircraft Artillery. The Threat army has been reluctant to replace its conventional antiaircraft guns with more sophisticated surface-to-air missile (SAM) systems. Antiaircraft artillery weapons range in caliber from 12.7mm to 130mm. Present emphasis is on automatic, rapid-fire, highly mobile guns and missile systems designed to provide field armies with effective low-level air defense.



The ZSU-23-4 is a self-propelled system mounting four 23mm guns with a completely integrated fire control system. The ZSU-23-4 is mounted on a light tracked chassis. Its onboard radar is used for both target acquisition and target tracking. Its four guns fire 800-1,000 rounds per minute, each with a tactical antiaircraft range of 3,000 meters and 2,000 meters without radar. It may be used against aircraft maneuvering to evade low- and medium-level surface-to-air missiles. The sustained rate of fire is 300 rounds per minute per barrel.

Recognition features: Full-tracked, six-roadwheeled vehicle; box-like hull with a rectangular turret centered over the third roadwheel; turret mounts four 23mm automatic antiaircraft guns.

Employment: Located in AD gun battery of motorized rifle and tank regiments; organic to AA regiment of maneuver divisions.



The ZSU-57-2 is used by field air defense units in tank divisions. It consists of a modified T-54 tank chassis carrying a twin S-68 57mm gun in a large, squarish, open top turret. The chassis has much less armor than the T-54 tank, and the running gear uses only four roadwheels. It weighs 28.1 tons. the turret is also identifiable by the large basket on the rear where empty cartridge cases are stored. It can fire 105-120 rounds per minute per gun with a tactical antiaircraft range of 4,000 meters.

REFERENCES:

FM 71-1, The Tank and Mechanized Infantry Company Team, Jun 77 (chap 2, pages 2-13 thru 2-17)
TC 30-3, Soviet Equipment Recognition Guide, Apr 75 (pages 1 thru 18)

071-331-0809

EMPLACE AND RECOVER FIELD EXPEDIENT
WARNING DEVICES

CONDITIONS:

In daylight, given:

1. Used C-ration cans, used ammunition boxes, or other discarded metal containers.
2. Used small arms ammunition, pebbles, or other small, hard objects.
3. A location for a defensive position.
4. Barrier wire, WD-1 communication wire, or similar wire.
5. A suspected route of enemy advance or well-defined avenue of approach.
6. Thirty minutes to complete emplacement.

STANDARDS:

Within time specified, the devices must meet the following specifications:

1. Security--Devices must be securely attached to either barrier wire or WD-1 communication wire, etc., along a known or suspected route of enemy advance.
2. Concealment--Devices must not be readily observable by an enemy approaching at night.
3. Forewarning--Devices must produce sufficient noise to warn personnel in defensive position of enemy advancing toward their position.
4. Simplicity--Devices that could be used by the enemy against you must be easily removable upon leaving defensive position.

PERFORMANCE MEASURES:

1. Components. Field expedient warning devices are limited only by your imagination. Four basic components are needed.

a. Container (C-ration can, metal ammunition box, or any other metal container without a bright, shiny finish).

b. Noisemaker (pebbles, stones, brass ammunition casings, or any other small, hard objects which, when put in the container, will make a noise when the container is shaken).

c. Tripwire (WD-1, barrier wire, or any similar wire).

d. Attachment device (a small piece of wire, string, cloth, etc., to tie container to tripwire).

2. Construction.

a. Cut holes in the side(s) and bottom of the container (to reduce wind resistance and allow water drainage). If container has a bright, shiny finish, paint it with a subdued color (OD, brown, flat black) or cover it with mud (if only mud is available, consider using a different container).

b. Attach container to tripwire. If a wire barrier is in place, use it; if not, string tripwire across likely avenue of approach at knee level or below. Attach container at a spot where natural vegetation will conceal it from enemy detection.

c. Place noisemaking objects in container.

d. Take a position at a defensive listening post and have another squad member brush against the wire holding the cans, to make sure you can hear the noise produced.

3. Recovery. Before leaving defensive position, recover devices that could be used by the enemy against you.

REFERENCES:

TEC Lesson 952-061-0050-F, Expedient Early Warning Devices, Part 1
TEC Lesson 952-061-0051-F, Expedient Early Warning Devices, Part 2

071-331-0810

EMPLACE/RECOVER PYROTECHNIC
EARLY WARNING DEVICES

CONDITIONS:

Situation 1: Given an M49A1 trip flare (either live or inert) and a designated area for employment of any early warning device.

Situation 2: Given WD-1/TT field wire or string, an M3 pull release training device (either live or inert), nonelectric blasting cap, crimpers, and a designated area for employment of an early warning device.

STANDARDS:

1. Installing Devices:

a. Install trip flare (M49A1) or M3 firing device so that the devices ~~are~~ firmly attached in place across designated area.

b. Arm devices so that anyone moving the tripwire/strip string will make the device go off.

2. Removing Devices:

a. Remove trip flare by first reinserting the safety pin and then reversing installation procedures.

b. The M3 (live) is dangerous to disarm. It should be blown in place. If the device must be disarmed, proceed as outlined in the performance measures below.

PERFORMANCE MEASURES:

1. General. Trip flares and M3 firing devices with tripwire are employed extending across any trail approaching from the direction of enemy main forces, allowing for maximum observation of trail from friendly positions. Typical employment sites may have the following characteristics:

a. A narrow trail approaches from the direction of enemy main forces; it is about 100 meters forward and is near the adjacent friendly unit.

b. Two routes in open terrain approach your positions directly; each route is about 10-15 meters wide.

c. A narrow wash approaches to within 10-15 meters of a listening post.

d. A narrow trail, approaching from the direction of bypassed enemy.

2. To Emlace an M49A1 Trip Flare:

a. The location chosen for installation of the flare and tripwire should be in the logical path of infiltrating troops and so positioned that the field toward the enemy will be illuminated and friendly defense positions will not be disclosed.

b. In most instances, it is easier to install the flare using the pullpin method, because the amount of slack in the tripwire is less critical. Also, the tripwire may be installed to the left or right of the flare.

c. To mount bracket by nailing, use two of the nails provided. The bracket must be as vertical as possible and at a height of 15 to 18 inches above the ground.

d. To mount flare, aline lever with trigger pivot.

e. Carefully slide flare downward into its bracket until bottom edge of lever is no more than one-sixteenth of an inch above--but not past--the bracket. In this position, note that the flare base is approximately one-half inch below the upper carriage bolt. The bottom end of lever is approximately three-eighths of an inch below the bracket prongs and is centered between these prongs (fig. 1).

NOTE: If the flare is positioned below the slot, in the bracket, the lever will not be free to move for proper arming. If the lever is not alined with the trigger pivot and centered between the prongs, the lever will not be free to move for proper arming.

f. Clamp flare in its bracket by tightening upper wingnut with sufficient force to grip flare firmly.

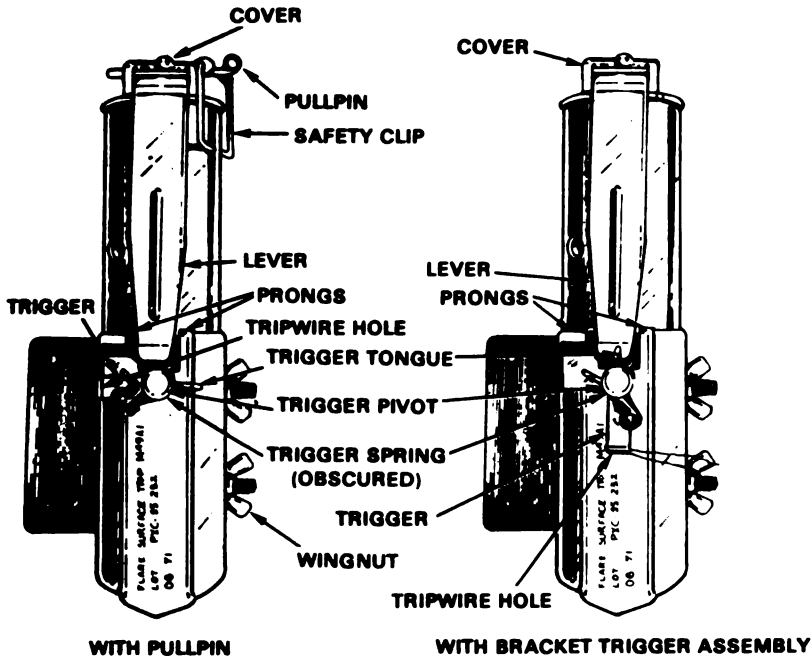


Figure 1

3. To Arm the M49A1 Trip Flare Using the Pullpin Method:

a. Fasten one end of tripwire to a post, stake, or other rigid object, at the desired distance (usually 40 feet) from flare and to the right or left of flare when facing flare trigger.

WARNING: Do not release lever when pressing it down in 3b below, because release of lever will cause flare to function.

b. Press lever down with one hand and move safety clip assembly.

c. While still holding lever, insert pullpin, which is attached to safety clip, through two safety clip holes of cover loading assembly.

WARNING: Before releasing lever in 3d below, make certain pullpin will hold in safety clip holes.

d. Carefully release hold on lever. Make certain pullpin is retained in safety clip holes by lever.

e. Pull loose end of tripwire taut and fasten it to loop in pullpin.

f. Check to see that the tripwire is taut and tightened at both ends.

g. Flare is now prepared for firing. Sufficient pressure applied to tripwire will pull safety from flare.

4. Misfire of the M49A1. In case of failure to fire, the flare should not be approached for 5 minutes. After the waiting period, the flare should be removed carefully and forwarded to authorized personnel for disposal.

5. Recover Flares Prepared for Use But Not Used. Follow procedures below to disarm.

WARNING: Any flare having a loose cover loading assembly will be forwarded to authorized personnel for disposal. Make no attempt to reassemble or tighten cover loading assembly.

a. Disarming.

(1) Carefully depress lever against flare body.

(2) If pullpin was used as method of arming, remove pullpin.

WARNING: Use only the safety clip holes in cover loading assembly when reassembling safety clip. The other holes must not be used.

(3) Secure lever by inserting one end of safety clip through one of the safety clip holes of cover loading assembly; snap other end of safety clip into other safety clip hole.

(4) Detach wire from pullpin.

(5) Return flare to its original packing.

b. Inspection. Prior to returning flare to storage, perform an inspection.

6. To Emplace an M3 Pull Ring Firing Device.

a. Functioning.

(1) Pull method. A pull of 6 to 10 pounds on tautwire will cause device to fire.

(2) Tension-release method. Release of tension (cutting of taut tripwire) will cause device to fire.

b. To install the M3 firing device (fig. 2).

(1) Remove protective cap.

(2) With crimpers, attach blasting cap to standard base. Crimper jaws should be placed no farther than one-fourth inch from open end of blasting cap.

(3) Attach firing device assembly to anchor (must be firm enough to withstand pull of at least 20 pounds).

(4) Secure one end of tripwire to anchor and place other end in hole in winch.

(5) With knurled knob, draw up tripwire until locking safety pin is pulled into wide portion of safety pin hole.

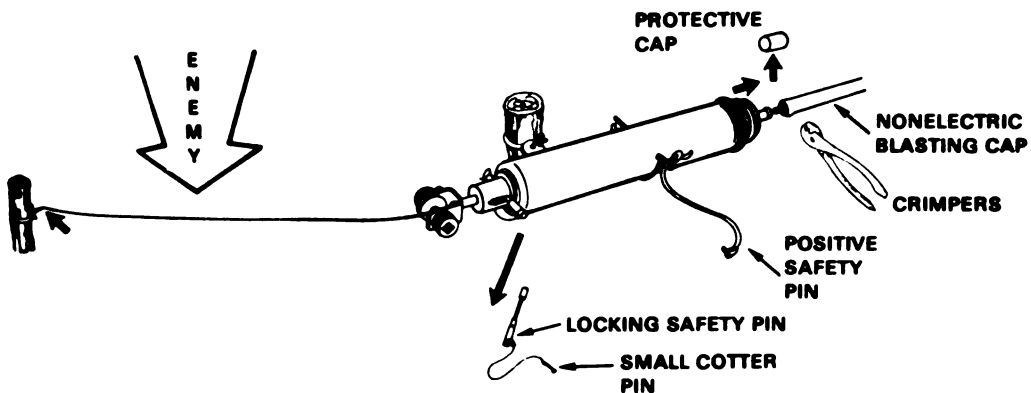


Figure 2

c. Arming.

(1) With cord, remove small cotter pin from locking safety pin and withdraw locking safety pin. If it does pull out easily, adjust winch winding.

(2) With cord, pull out positive safety pin. This should pull out easily. If not, disassemble and inspect.

d. Disarming.

(1) Insert length of wire, nail, or cotter pin in positive safety pin hole.

(2) Insert length of wire, nail, or safety pin in locking safety pin hole.

(3) Check both ends and cut tripwire.

(4) Separate firing device from charge and return firing device to its container.

NOTE: Insert positive safety pin first. Cut tripwire last.

REFERENCES:

FM 5-25, Explosives and Demolitions, Feb 71 (chap 1, sec VI, pages 1-36 thru 1-37)

FM 5-34, Engineer Field Data, Sep 76 (chap 3, sec I, page 46b)

FM 20-32, Mine/Countermining Operations at Company Level, Nov 76 (app D, page 153)

TM 9-1345-203-12&P, Land Mines

071-331-0811

EMPLACE/RECOVER ELECTRONIC
ANTI-INTRUSION DEVICES

CONDITIONS:

Given a patrol seismic intrusion device (PSID) detector unit (in storage), an area of emplacement of the PSID, a detection range setting, and a PSID receiver and receiver operator in the area of emplacement.

STANDARDS:

1. Within 8 minutes, emplace the PSID IAW the performance measures for emplacement.
2. Within 5 minutes, recover the PSID and return to storage configuration IAW the performance measure for recovery.

PERFORMANCE MEASURES:

1. Unpacking (fig. 1).
 - a. Remove the detector sets and receiver sets from the carrying cases and remove the clips which are over the end of each unit. Remove the geophone from the clip on the detector and unwrap the geophone cables. Remove the headset and headband from the carrying case. Connect the headset cable to the receiver set.
 - b. Inspect each unit for damage (e.g., broken antenna, cracked case, damaged cable). If any damage exists, either repair or reject the unit.
 - c. Remove the batteries from their shipping carton. Place the ON/OFF sensitivity switch on the detector sets in the OFF position, and the ON/OFF switch on the receiver set in the OFF position. Install the batteries in the detector sets and the receiver set. Place 10 spare batteries in the alarm set carrying case.

d. Make sure that all detectors of the alarm set are marked with the same RF frequency as the receiver. All four pulse codes should be present. The units with the wrong frequency of pulse code will be taken from the alarm set and returned to supply.

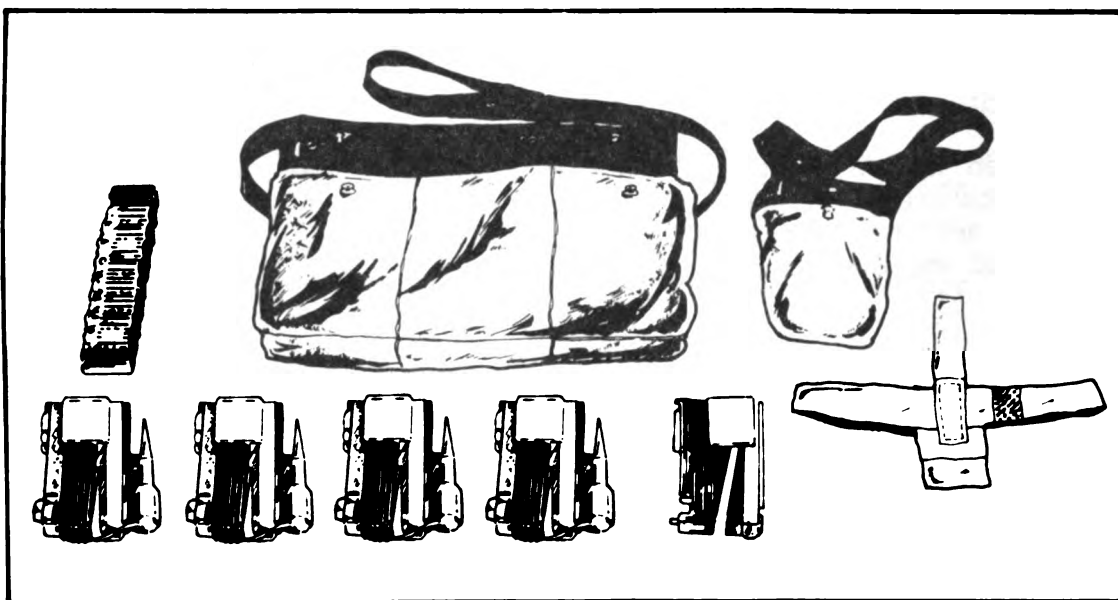


Figure 1. Alarm set, anti-intrusion (PSID)

2. Preparation and Checkout.

a. Select a suitable location for the checkout area. The conditions of this area should be similar to those of the actual use area.

b. Select one of the detector sets and notice the pulse code marked on the detector case. Emplace the detector set in the checkout area as shown in figure 2. The receiver operator should be 4 to 5 meters (13 to 16 feet) from the detector set.

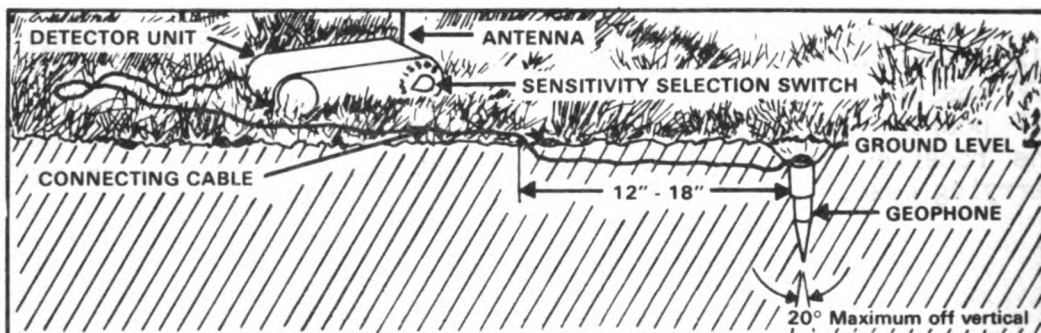


Figure 2. PSID emplacement.

c. Turn the detector ON/OFF sensitivity switch to position number one and the receiver ON/OFF switch to the ON position. If the detector receiver operator does hear a signal, either there is excessive background noise in the checkout area or the detector set is defective.

d. When the detector operator moves within the radius of the detector range shown in figure 3, the receiver operator should hear a signal.

NOTE: He may or may not hear a signal for each movement.

e. If the receiver operator hears a signal or signals which match the pulse code marked on the detector set, the position of the ON/OFF sensitivity switch and the distance between the detector set and receiver set should be noted for proper setup when the detector is deployed in the use area. Return the ON/OFF sensitivity switch to the OFF position. Remove the geophone from the ground. Wipe the case and geophone clean; then return the detector set to the carrying case for move to the use area.

ON/OFF SENSITIVITY SWITCH POSITIONS	PERSONNEL MOVEMENT RANGE
OFF	0 feet 0 meters
1	8 feet 2.6 meters
2	15 feet 4.9 meters
3	50 feet 16.5 meters
4	70 feet 23 meters
5	130 feet 43 meters

Figure 3. Detector sensitivity range.

f. If the receiver operator does not hear a signal, set the ON/OFF sensitivity switch to the next higher position and/or decrease the distance between the detector set and receiver set as necessary until the receiver operator hears a signal or signals matching the pulse code marked on the detector case, and repeat paragraph 2e.

g. In all cases, select the switch setting which allows no false signal when the detector operator is not moving, but which gives a signal when the detector operator moves within the detector sensitivity range. If both conditions cannot be met, select the nearest approximations or relocate the checkout area to a location with less background noise.

h. Repeat the preceding procedure for each of the detector sets.

3. Emplace the Detector Sets.

a. The detector sets will be emplaced as shown in figure 2. The deployment location should be one which has a low level of background noise (background noise is defined as any undesired vibration within the sensitivity range of the detector set, such as high winds, rain, low-flying aircraft, and similar sources of ground disturbances). Some areas which present high levels of background noise would be airfields, heavily traveled roadways, heavily congested areas, and roadways with heavy vehicles traveling as much as a mile from the detector set. Background noise of a sufficient level could cause the detector set to transmit meaningless signals indicating movement in an area where there is none.

b. Remove the plastic storage clip from the PSID unit.

c. Unclip the geophone and unwind the connecting cable and antenna. Slide the plastic clip back over one end of the detector unit so it will not be mislaid.

d. Push the geophone straight down into the ground (no more than 20° off vertical or it will not work). Do not drive the geophone into the ground by striking it with a hard object or stamping on it. Loosen the soil with an entrenching tool, stick, or other sharp object, if necessary.

e. Bury 12 to 18 inches of the connecting cable adjacent to the geophone. This cuts down on the possibility of cable movement activating the geophone. (See fig. 2).

f. Position the detector unit on the ground, being sure the antenna is not in contact with any wet foliage that might ground it.

g. Set the sensitivity selection switch for the detection range you have been given.

h. During daylight hours, camouflage the detector unit and connecting cable with dry twigs and weeds. This is not usually necessary at night.

4. Geophone. The geophone senses the movement of personnel and vehicles in the area of the detector. The detector in turn transmits a message until the movement is outside the detector's sensitivity range. If it is desirable to establish the direction of movement, the detectors can be arranged in such a manner where movement from one detector range into another detector range will indicate the direction of travel. Under ideal conditions, the transmitted signal from the detector set will be received a maximum of 1 mile (1,852 meters).

5. Receiver Set.

a. The two acceptable configurations in which the receiver set may be utilized are shown in figure 4. In the configuration "a," the receiver may be placed on a table, the ground, or held in the hand. The antenna should be free of any obstruction. In configuration "b", the receiver may be placed in the shirt pocket. CAUTION: The antenna should be on the side away from the body to avoid the possibility of malfunction or poor reception due to body perspiration.

b. When the receiver picks up the transmitted signal, it converts it to a pulsed audio tone which is heard through the headset. An experienced receiver operator will be able to determine which detector is transmitting by the tone, as well as the number of pulses. In place of the headset, a small speaker of the proper impedance may be used, or an amplifier with the proper input impedance may be used in conjunction with the receiver set.

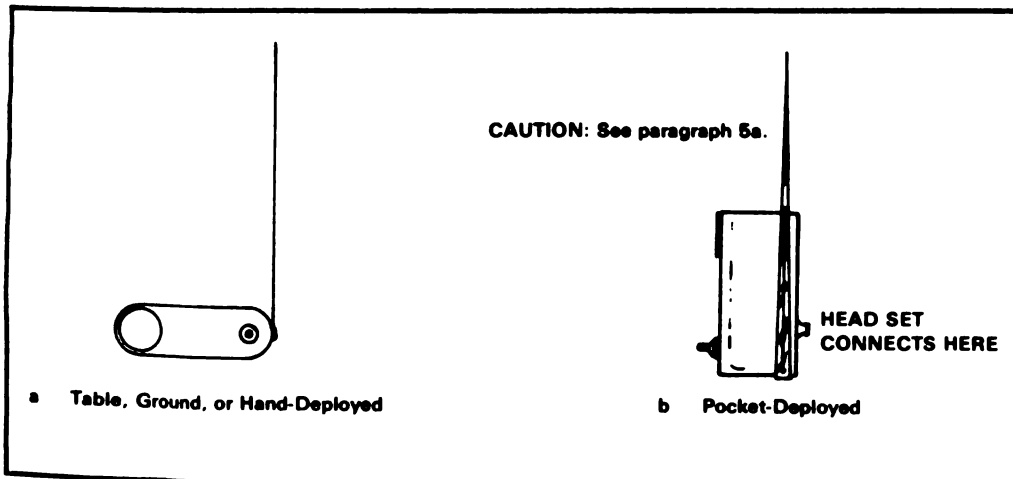


Figure 4. Receiver configuration while in use.

6. Recovering the PSID.

- a. Locate the detector unit and turn the sensitivity switch to the OFF position.
- b. Trace along the connecting cable and gently uncover the buried cable until you get to the geophone.
- c. Dislodge the geophone by grasping it, not the connecting cable, and pulling it loose.
- d. Remove the storage clip and brush all dirt and debris off the equipment.
- e. Rewind the antenna around the detector unit, wrap the cable around the unit, clip the geophone into the holder, and fasten the plastic storage clip over the wire and antenna.

REFERENCES:

TM 5-6350-249-12, AN/GSO-151, Alarm Set, Anti-Intrusion Restricted Area (PSID), C1, Dec 69 (sec I, II, and III, pages 1-1 thru 3-3)
TEC Lesson 952-061-0054-F, Early Warning Devices: Electronic, Part 1
TEC Lesson 952-061-0055-F, Early Warning Devices: Electronic, Part 2.

071-331-0820

ANALYZE TERRAIN USING THE FIVE MILITARY
ASPECTS OF TERRAIN

CONDITIONS:

Given any tactical mission which involves a specified route or location on the ground or map.

STANDARDS:

Analyze route or location in terms of the military aspects of terrain (observation and fire, concealment and cover, obstacles, key terrain, and avenues of approach) and determine how each affects the mission.

PERFORMANCE MEASURES:

Terrain is analyzed in terms of its five military aspects (observations and fire, concealment and cover, obstacles, key terrain, and avenues of approach) to determine the effect of terrain on the general courses of action available to friendly and enemy forces.

1. Observation and Fire.

a. Observation depends on conditions of terrain which permit a force to locate the enemy either visually or through the use of surveillance devices. The best observation generally is obtained from the highest terrain features in an area. The effects of visibility on observation are analyzed with weather. Visibility and observation are analyzed independently because visibility varies with weather conditions, whereas observation varies with terrain conditions which are relatively permanent.

b. Fire encompasses the influence of the terrain on the effectiveness of direct and indirect fire weapons. The fires of indirect fire weapons are affected primarily by terrain conditions within the target area. Fields of fire for direct fire weapons are primarily affected by terrain conditions between the weapon and target.

c. You, the squad leader, must identify those terrain features within and adjacent to the area of operations which afford the friendly or enemy force favorable observation and fire. You consider them in your subsequent analysis of concealment and cover, key terrain, and enemy forces.

2. Concealment and Cover. Concealment is protection from observation; cover is protection from the effects of fire. As a squad leader, you must determine the concealment and cover available to both friendly and enemy forces.

a. Concealment may be provided by terrain features and vegetation such as woods, underbrush, or cultivated vegetation, or by any other feature which denies observation. Concealment does not necessarily provide cover.

b. Cover may be provided by terrain features or manmade features. Areas that provide cover from direct fire may or may not protect against the effects of indirect fire; however, most terrain features that offer cover also offer concealment.

3. Obstacles.

a. An obstacle is any natural or artificial terrain feature which stops or impedes military movement.

b. Consideration of obstacles is influenced by the mission.

c. An obstacle may be an advantage or disadvantage and must be considered on its own merits, in view of a specific mission. For example, obstacles perpendicular to a direction of attack favor the defender by slowing or canalizing the attacker. Obstacles parallel to the direction of attack may assist in protecting a flank of the attacking force.

4. Key Terrain. A key terrain feature is any locality or area whose seizure or control affords a marked advantage to either force. The term "seizure" clearly implies physical occupation of the terrain by a force, whereas the term "control" may or may not include physical occupation. The selection of key terrain varies with the level of command, the type of unit, and the mission of the unit.

5. Avenues of Approach.

a. An avenue of approach is a route for a force of a particular size to reach an objective or key terrain. To be considered as an avenue of approach, a route must provide enough width for the deployment of the size force for which the avenue of approach is being considered.

b. The analysis of an avenue of approach is based on the following considerations:

(1) Observation and fire. (Favorable observation and fire for the force moving on the avenue of approach.)

(2) Concealment and cover. (Provides favorable conditions of concealment and cover--this consideration is frequently in conflict with the preceding one.)

(3) Obstacles. (Avoids those which are perpendicular to the direction of advance and, whenever practical, takes advantage of those which are parallel to the direction of advance.)

(4) Utilizes key terrain.

(5) Provides adequate maneuver space.

(6) Ease of movement.

c. The analysis of an avenue approach is based solely on terrain considerations.

REFERENCES:

FM 30-5, Combat Intelligence, Oct 73 (app B, pages B-1 thru B-5)
TEC Lesson 935-071-1027-F, Analyze Weather and Terrain

081-831-1016

ADMINISTER FIRST AID FOR AN OPEN ABDOMINAL WOUND

CONDITIONS:

Given a casualty with an open abdominal wound. Required equipment: a first aid dressing.

STANDARDS:

Cover the wound with a first aid dressing, secure the dressing, and position casualty on his back with head to one side.

NOTE: Before administering first aid for any wound/injury, always check the casualty first to determine if these lifesaving measures are needed--

- A. Open the Airway and restore breathing and heartbeat.
- B. Stop the Bleeding.

Then examine him and perform these lifesaving measures, if necessary--

- C. Control/prevent shock.
- D. Dress and bandage wounds/splint fractures.

PERFORMANCE MEASURES:

1. Place the casualty on his back with legs slightly drawn up.
2. Expose the wound by removing any obstructing clothing, being careful not to touch the wound.
3. Cover the wound and any protruding organ with the first aid dressing. Do not touch or try to push protruding organs into the wound; however, if it is necessary to move an exposed intestine onto the abdomen in order to cover the wound adequately, then do so, using the sterile side of the first aid dressing.

4. Secure the dressing by sliding the dressing tails under the patient and by tying the tails at the edge of the dressing without applying excessive pressure. Use an additional bandage, if available, to further secure the dressing.

5. Do not give or allow the casualty to take anything by mouth, because it will eventually pass through his intestines and spread contamination in the abdomen. Moisten a cloth and apply to the casualty's lips to help lessen his thirst.

6. Leave the casualty on his back, preferably with legs drawn up to alleviate pain, and turn his head to one side because he might vomit.

7. Get casualty to a medical treatment facility as soon as possible.

REFERENCE:

FM 21-11, First Aid for Soldiers

081-831-1017

ADMINISTER FIRST AID FOR AN OPEN CHEST WOUND

CONDITIONS:

Given a casualty with an open chest wound. Required equipment: a first aid dressing or other material to seal and dress wound.

STANDARDS:

Seal the wound with an airtight covering, apply and secure a dressing over the sealed wound, and position the casualty with injured side down, or in a sitting position if casualty is conscious and can breathe easier this way.

NOTE: Before administering first aid for any wound/injury, always check the casualty first to determine if these lifesaving measures are needed--

- A. Open the Airway and restore breathing and heartbeat.
- B. Stop the Bleeding.

Then reexamine him and perform these lifesaving measures, if necessary--

- C. Control/prevent shock.
- D. Dress and bandage wounds/splint fractures.

NOTE: An open chest wound affects airway and breathing since air being sucked into the chest cavity will cause the lung to collapse. A distinct sucking sound may be heard at the wound site or it may be a nonsucking wound. First aid is the same for both.

PERFORMANCE MEASURES:

1. Expose the Wound. Rapidly and gently remove clothing from wound area.

2. Check for Exit Wound. If an exit wound exists as well as wound of entry, the larger of the two should be sealed first, as rapidly as possible.

3. Seal the Wound (fig. 1a and b). Using a clean technique, apply the inside of the plastic wrapper of the casualty's first aid dressing directly over the wound. If casualty is conscious, have him exhale forcibly and hold his breath, then apply the wrapper; if unconscious, apply the wrapper as he exhales.

NOTE: Other material can be used if this is not available. The primary consideration is to make the wound airtight.

4. Secure Seal With First Aid Dressing (fig. 1c). Secure the seal by applying the field first aid dressing over the wound and exert manual pressure evenly with the open hand. This is also applied, similar to the application of the seal, as the casualty exhales. Anchor the dressing in place by tying the tails of the bandage. Tie additional available bandaging materials (i.e., strips of material from clothing, blankets, poncho) around dressing and secure with belt.

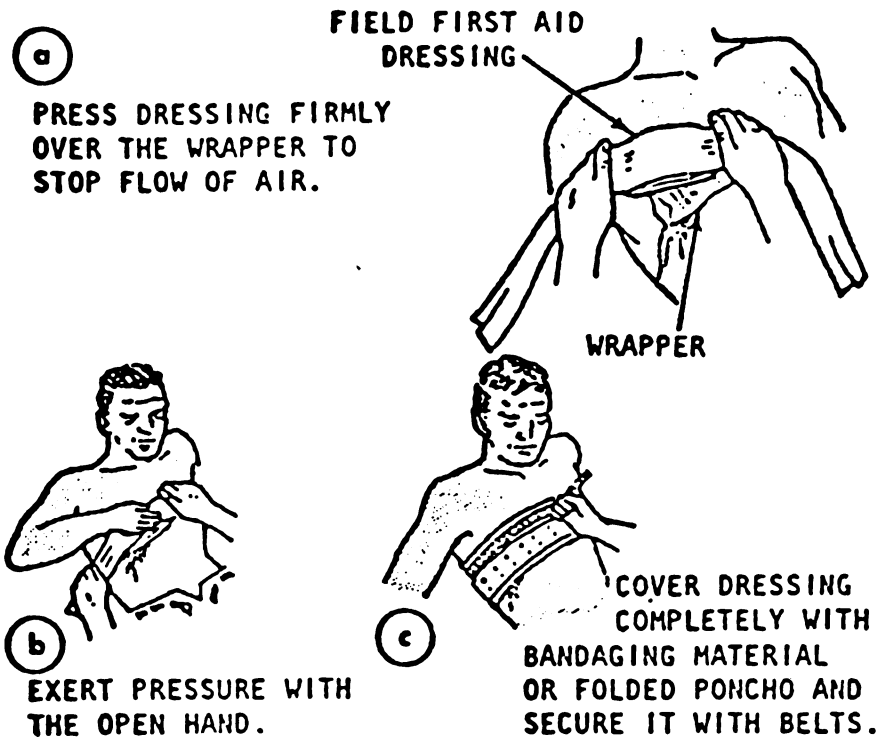


Figure 1. Sealing an open chest wound.

5. Check Airway for Difficult Breathing. Check the airway to see if the casualty is breathing easily. If breathing is still difficult, recheck the seal and bandage to insure their effectiveness.

6. Position Casualty. An unconscious casualty is placed in a side-lying position with the injured side down to ease pain and to assist breathing. If casualty is conscious allow him to sit, lean back, or lie on the injured side to ease pain and assist breathing.

7. Get casualty to medical treatment facility as soon as possible.

REFERENCES:

FM 21-11, First Aid for Soldiers

081-831-1018

ADMINISTER FIRST AID FOR INSECT STINGS AND SPIDER BITES

CONDITIONS:

Given a victim with an insect sting or a spider bite, ice if available, soap and water if available, knife if available.

STANDARDS:

Administer first aid as described in the performance measures below.

PERFORMANCE MEASURES:

1. Bee, Wasp, Scorpion, and Fire Ant Stings.
 - a. Keep the victim as quiet as possible.
 - b. Remove the stinger by scraping gently across the sting site with a knife blade or fingernail. This step applies only to honeybee stings since other stinging insects normally do not leave their stingers.
 - c. Wash the affected area with soap and water to help prevent infection.
 - d. Apply ice to the affected area to decrease absorption of the poison and help relieve pain.
 - e. If signs of allergic reaction are evident (anxiety, itching, skin rash, swelling around the eyes and mouth, headache, weakness, breathing difficult, and abdominal cramps), evacuate the victim to a medical treatment facility without delay.
 - f. If breathing becomes difficult, maintain an open airway and perform mouth-to-mouth resuscitation if necessary.
2. Black Widow and Brown Recluse Spider Bites.
 - a. Keep the victim as quiet as possible.

b. Wash the affected area with soap and water to help prevent infection.

c. Apply ice to the area to help keep the venom from spreading and to help relieve pain.

d. Determine, if possible, whether a black widow spider inflicted the bite so the proper treatment can be administered by the medical facility.

e. Evacuate the victim to a medical treatment facility.

REFERENCE:

FM 21-11, First Aid for Soldiers

113-573-4001

ENCODE AND DECODE MESSAGES USING A KTC-600 TACTICAL OPERATIONS CODE

CONDITIONS:

Given dates and times, CEOI, tactical operations code KTC-600, and a message to be encoded or three-letter code groups to be decoded.

STANDARDS:

Encode or decode the message, without error, within 30 seconds per code group or word/phrase.

PERFORMANCE MEASURES:

1. Use of Code Sets. Each set of the KTC-600 tactical operations code is effective for a given time frame, not to exceed 48 hours. Time of change will be directed in the CEOI (could be days of the month or days of any given operation). Sets are used as follows:

EXAMPLE ONLY

SET	EFFECTIVE DAYS (of the month or operation as directed by the CEOI)
1	1 and 2
2	3 and 4
3	5 and 6
4	7 and 8

2. To Encode.

a. After writing out your message in plaintext, turn to the code set used on that day (see example above; on the 5th day of the month (or operation), you would use set 3).

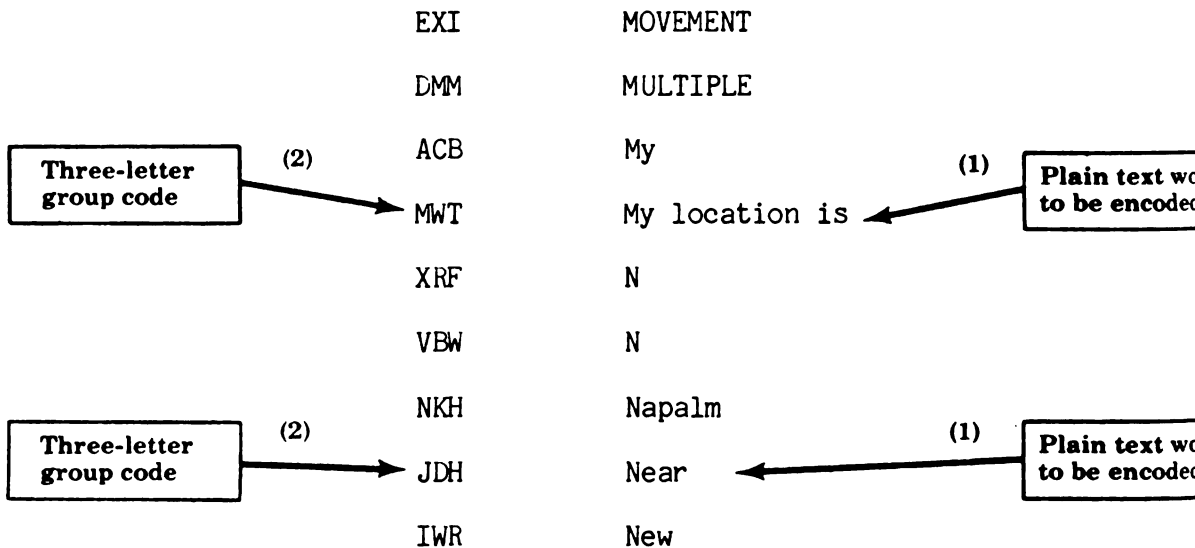
b. The encoded portion of the operations code is made up of words and phrases commonly used in tactical operations which are arranged in alphabetical order as in a dictionary. To the left of each is a three-letter code group which is the code for that word or phrase.

c. Procedure to encode words or phrases:

- (1) Find the word or phrase to be encoded.
- (2) Identify the three-letter code group located to the left of that word or phrase.
- (3) Write that three-letter code group under the word or phrase where you have written out the message to be encoded.
- (4) Repeat this procedure until the whole message is encoded.

(EXAMPLE ONLY)

Message: "My location is near."



My Location is near.

MWT JDH

NOTE: Two code groups are provided for spelling a word that contains double letters. Do not use identical code groups side by side when you are spelling a word that contains double letters.

3. To Decode.

a. After receiving and writing down the encoded message, check the CEOI and turn to the code set in effect for that day.

b. The decode portion of the operations code is made up of a column of three-letter code groups in alphabetical order (AAO, ABL, ABY, etc.) with a word or phrase to the right of each group.

c. To decode a received message, find the code group and write the word/phrase next to it under that group in the encoded message which you copied.

(EXAMPLE ONLY)

Coded Message: "MWT JDH"

	J		
	JCW	Here	
Three-letter group code	JDH	Near	Plain text word decoded
	NDU	O	
	M		
	VMM	Comma (,)	
	MWF	Period (.)	
Three-letter group code	MWT	My location is	Plain text word decoded
	MWY	Convoy (s)	
	MXB	Effect-ed-ing	

MWT JDH
My Location is near.

NOTE: You can save some time when encoding or decoding by going in alphabetical order. When encoding, look up all words/phrases starting with A, then B, etc. When decoding, look up all code groups beginning with A, the B, etc.

4. Radio Procedure.

a. After contact is established, the station sending the encoded message uses the following prowords/procedures:

(1) "Message." Lets the receiving station know that a message is going to be sent THAT REQUIRES RECEIVING STATION to copy.

(2) "Groups." The number of groups in the message is provided so that the receiving station can check his copy. The receiving station should write this number down.

(3) Groups are transmitted phonetically (that is, each letter is pronounced as a word, as given in the military phonetic alphabet). Transmission should be slow, with a pause between each group.

EXAMPLE: If station F07 is going to transmit the message, "Execute plan B" to station F26 and the encoded message is "BCA ONM ZYX," the transmission would be: (—indicates a pause)

(sending station) "FOXTROT TOO SIX--THIS IS FOXTROT ZERO SEVEN--MESSAGE--OVER"

(receiving station) "FOXTROT TOO SIX--OVER"

(sending station) "GROUPS THREE--"

BRAH-VOH CHAR-LEE AL-FAH

--OSS-CAH NO-VEM-BER MIKE

--ZOO-LOO YANG-KEY ECKS-RAY

--OVER

b. After the message is received and copied, and before it is decoded, the following procedures and prowords may be used:

(1) "Interrogative groups." Used by the receiving station when his group count is not the same as the sending station told him it would be. The receiving station's group count follows the word "groups."

(2) "Correct, out." Used by the sending station when the receiving station's interrogative group count is correct.

(3) "Groups" followed by a series of phonetic letters. Used by the sending station when the interrogative group count is wrong. The right group count follows the word "groups," and the first letter of each group is sent again. The receiving station checks these letters against the message he copied and finds his mistake.

(4) "Say again." Used by the receiving station to ask the sending station to retransmit a group(s) not received. The number of the group missed is put in the blank. (Example: "Say again five" means that the sending station should resend the fifth group in the message.)

c. Once the message has been decoded and a word (or all of the message) does not make sense, the receiving station should--

(1) Check to see if he has used the right code set.

(2) If the right code set was used, the receiving station should recontact the sending station and have him check the code group (or message) by using the proword "verify." (Examples: "Verify ONM" if ONM when decoded does not make sense; or "Verify message" if the whole message does not make sense.) The sending station then encodes and sends that portion again.

NOTE: Each set in the operations code has "spares" assigned. These spares can be used if all stations are informed of their meaning in advance. A word not included in the code or an entire message may be assigned to a "spare" group, or be spelled out using the letters listed in the operations code for that set.

REFERENCES:

Unit CEOI (Communications-Electronic Operating Instructions)
(Classification)

TEC Lesson 936-061-0109-F, RTP, Part 2: Writing Down Messages
Received by Radio

TEC Lesson 936-061-0111-F, RTP, Part 4: Preparing Messages To Be
Sent

TEC Lesson 936-061-0112-F, RTP, Part 5: Sending and Receiving
Messages

NOTE: This instruction is not classified insofar as explaining encoding and decoding messages.

113-573-4002

USE KAL 61B KTC 1400 NUMERICAL CODE TO
AUTHENTICATE TRANSMISSIONS AND
ENCRYPT/DECRYPT NUMBERS AND
GRID ZONE LETTERS

CONDITIONS:

Given dates and times, a KAL 61B with KTC 1400 tables, pencil, paper, and the following items which may be simulated for training only: operational FM radios, a frequency, call signs, and a sending station.

Situation 1: A contacted station which might be an imposter.

Situation 2: A station requests you to authenticate two phonetic letters.

Situation 3: A requirement to encode specific grid coordinates and transmit them within an otherwise clear text (uncoded) message.

Situation 4: A station, while transmitting, says the words "I set" followed by 8, 10, or 12 phonetic letters.

STANDARDS:

Without error, select the right KTC 1400 for the time period given:

Situation 1: Within 15 seconds (not counting time taken by the other station), transmit, using proper radio procedure, a two-letter challenge, and from the reply determine whether or not the station responded correctly. (If station takes more than 5 seconds to respond, challenge again.)

Situation 2: Within 15 seconds, using the correct radio procedure, respond to the challenge with correct authentication. (If immediately challenged again, respond correctly within 5 seconds.)

Situation 3: Encode the specific grid coordinates without error and transmit them using correct radio procedures.

Situation 4: Decode the words after "I set" without error.

PERFORMANCE MEASURES:

NAO 3B

TO SET UP FOR ENCRYPTING

Step 1. Randomly select any two letters (except Z) for message "SET INDICATOR" (SI). EXAMPLE: CP.

Step 2. Find the first letter "C" of the SI in LINE INDICATOR COLUMN (1).

Step 3. Find the second letter "P" of SI in the line indicated by the first letter. Letter to the right of second SI letter is the SET LETTER.

NOTE: If the second SI letter is the last letter in the line, then the first letter in the same line will be the SET LETTER.

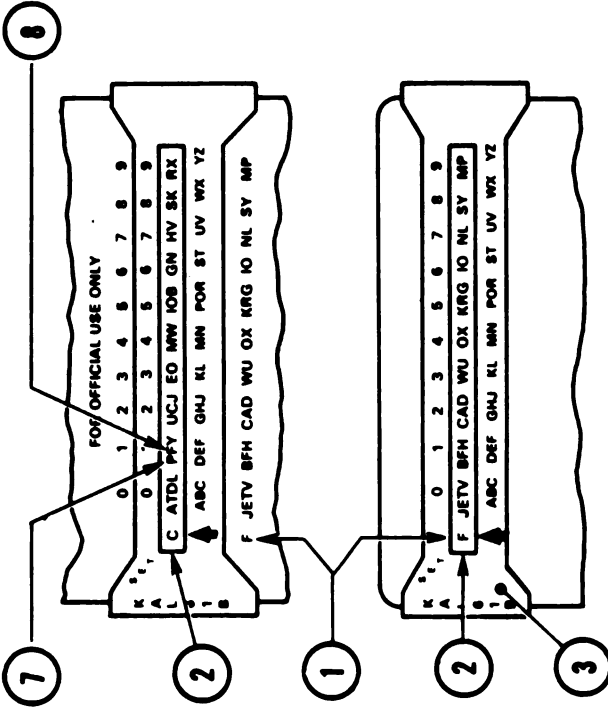
Step 4. Find SET LETTER "F" in LINE INDICATOR COLUMN.

Step 5. Position READER GUIDE over line indicated by SET LETTER "F". Device is now ready for encrypting.

1. TO SET UP FOR ENCRYPTING.

(PROTECTIVE MARKING)

NAO 3B



KAL 61 set up for encrypting.

1. Line Indicator Column
2. Set Letter/First Letter of Set Indicator
3. Reader Guide

7. Second Letter of Set Indicator
8. Set Letter

(PROTECTIVE MARK 3)

TO ENCRYPT NUMBERS

Set KAL 61 for encrypting as indicated in Section 1.

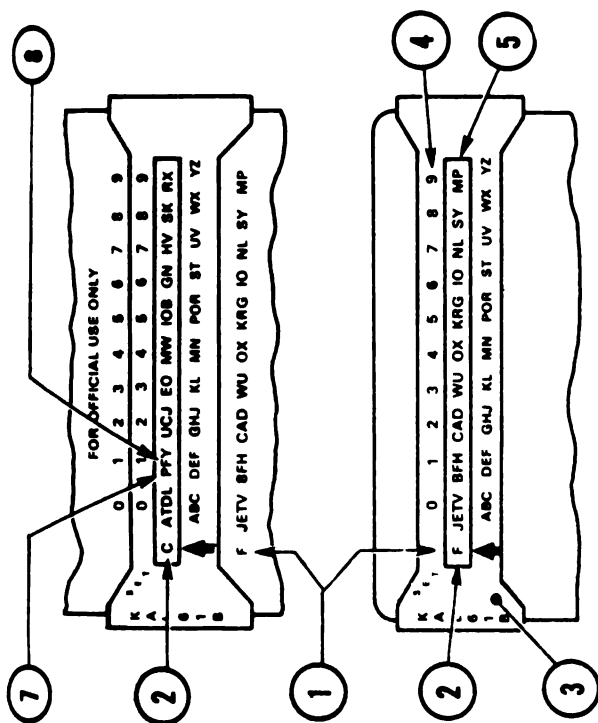
Step 1. Find number to be encrypted in **PLAINTEXT NUMBERS (4)** on **READER GUIDE (3)**. **EXAMPLE: 572938.**

Step 2. Substitute for each number one of the **CIPHER LETTERS (5)** grouped in the set line immediately below the number to be encrypted. Continue to substitute letters from the same **SET** line until all numbers for that group are encrypted. **EXAMPLE: RNAMUS** is one possibility. By using variants, others are possible.

NOTE: Numbers will be encrypted one at a time in the same order they appear in the message. A different cipher letter will be used for repeated numbers. If there are more than 15 numbers to be encrypted in the same message, one **SET INDICATOR** will be used for the first 15 numbers and a different **SET INDICATOR** for each succeeding group of 1 to 15 numbers. This must be done because the encrypting of more than 15 numbers in the same **SET INDICATOR** can seriously weaken the security of the system.

2. TO ENCRYPT NUMBERS.

(PROTECTIVE MARKING)



3. Reader Guide
4. Plaintext Numbers
5. Cipher letters

(PROTECTIVE MARKING)

NAO 3B

TO ENCRYPT GRID ZONE LETTERS

Step 1. Find first grid zone letter to be encrypted in PLAINTEXT LETTERS (6). EXAMPLE: N.

Step 2. Substitute for that letter the cipher letter located in SET line directly above the letter to be encrypted. EXAMPLE: X.

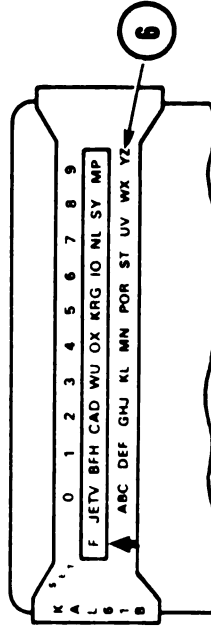
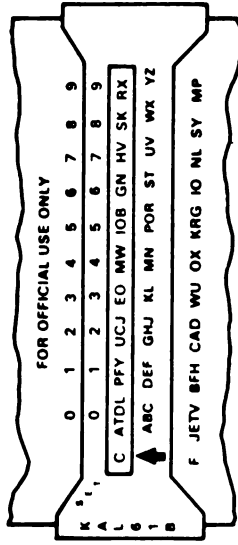
Step 3. Find the second grid zone letter to be encrypted in PLAINTEXT LETTERS (6). EXAMPLE: R.

Step 4. Substitute for second letter the cipher letter located in SET line directly above the letter to be encrypted. EXAMPLE: G. The same SET line will be used to encrypt both the grid zone letters and the coordinates.

NOTE: Grid Zone letters will be included in messages when they are necessary to the understanding of such messages. NO OTHER LETTERS WILL BE ENCRYPTED. If necessary to preclude misunderstanding, a statement may be made that grid zone letters are included in the message.

3.TO ENCRYPT GRID ZONE LETTERS.

(PROTECTIVE MARKING)



6. Plaintext letters for UTM Grid Zone Designators

(PROTECTIVE MARKING)

ARRANGEMENT AND TRANSMISSION OF MESSAGES

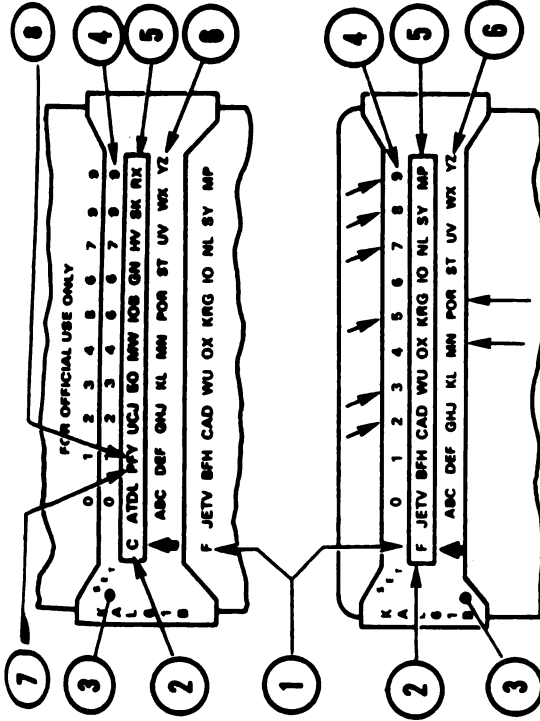
This system is designed to be used with plain text. Therefore, most messages using this system will include both encrypted portions and plaintext portions. The encrypted portions of your message will be arranged as follows:

- First two letters will be the SET INDICATOR letters. (NEVER TRANSMIT THE SET LETTER). EXAMPLE: CP. (This is transmitted as "I set CHARLIE PAPA".)
- If grid zone letters are included, the third and fourth letters will be encrypted grid zone letters. EXAMPLE: XG. (This is transmitted as "X-RAY GOLF".)
- Remaining letters (including third and fourth if grid zone letters are not included) will be encrypted numbers. EXAMPLE: RNAMEUS. (This is transmitted "ROMEO NOVEMBER ALFA MIKE UNIFORM SIERRA".)

NOTE: An encrypted, six-digit location which includes grid zone letters will consist of ten letters, including the SI which is always the first two letters. The entire encrypted location would be transmitted as "I set CHARLIE PAPA. (pause), X-RAY GOLF ROMEO NOVEMBER ALFA MIKE UNIFORM SIERRA".

4. ARRANGEMENT AND TRANSMISSION OF MESSAGES

(PROTECTIVE MARKING)



NAO 3B

TO DECRYPT

Example encrypted location: CP XG RNAMUS. (Transmitted as, "1 set CP (pause) XG RNAMUS".)

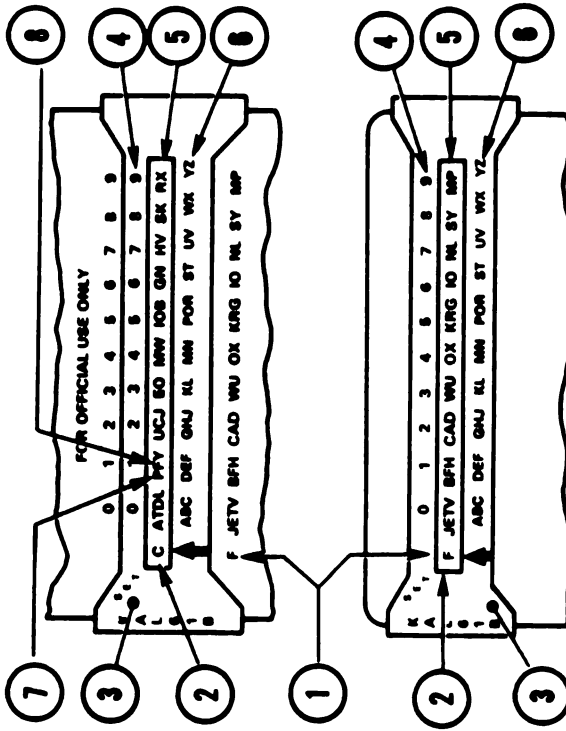
Step 1. Find SET LETTER "F" using the SI "CP" as described in "TO SET UP FOR ENCRYPTING" Steps 2 and 3.

Step 2. Decipher message beginning with the third letter "X" by substituting plaintext letters/numbers on the READER GUIDE (3) for the cipher letters.

5. TO DECRYPT

(PROTECTIVE MARKING)

NAO 3B



1. Line Indicator Column
2. Set Letter/First Letter of Set Indicator
3. Reader Guide
4. Plaintext Numbers
5. Cipher Letters
6. Plaintext Letters for UTM Grid Zone Designators
7. Second Letter of Set Indicator
8. Set Letter

(PROTECTIVE MARKING)

NAO 3B

NOTE: The called party will make the first challenge. Both the person making the challenge and the person being challenged must find the correct reply. The party making the call may then counter-challenge the called party using a different challenge.

Transmission Authentication

One hundred Transmission Authentication digraphs have been provided in this system. They are to be used in cases where authentication is required and it is not possible or desirable that the receiving station reply. The Transmission Authentication table consists of ten numbered columns containing ten digraphs each. Columns have been numbered to make the assignment of Transmission Authentication digraphs easier. Numbered columns should be assigned by the Controlling Authority to selected communications nets within his cryptonet. Authentication digraphs within the numbered columns should be used only once, and only within the Controlling Authority's net. When it becomes necessary to use Transmission Authentication, the first or next unused digraph in the assigned column will be used.

6. TO AUTHENTICATE.

(PROTECTIVE MARKING)

NAO 3B

NOTE: AUTHENTICATION MAY BEST BE ACCOMPLISHED BY MOVING READER GUIDE COMPLETELY OUT OF THE WAY OR ELSE POSITIONING IT SO AS NOT TO OBSCURE REPLY LINE.

TO AUTHENTICATE

Challenge and Reply

Step 1. Select any two letters (except Z) at random for challenge. **EXAMPLE:** KV.

Step 2. Find first letter "K" of challenge in the LINE INDICATOR COLUMN.

Step 3. Find second letter "V" of challenge in line indicated by first letter. The correct reply (E) is the cipher letter directly under the second letter "V" of the challenge.

NOTE: If the first letter of the challenge is "Y" indicating the last line of the table, the reply should be taken from the "A" line and will be the letter in the same position as the second letter of the challenge in the "Y" line.

If challenged party does not reply within 5 seconds but does reply correctly, challenge that party again using a different challenge.

(PROTECTIVE MARKING)

NAO 3B

A	0	1	2	3	4	5	6	7	8	9
B	VDFJ	AUM	IHC	EL	XW	YNO	GT	OK	PS	RB
C	CIFN	WKV	BDQ	ES	RH	YOJ	XL	AT	UG	PM
D	QSXJ	CFY	OGD	RT	UA	VIN	KH	TA	WP	LB
E	IOBS	JKQ	FEG	DP	MN	XWL	CH	EM	VU	RY
F	KLPA	MLJX	QDY	CH	CW	VFE	BT	RN	UI	OS
G	VUCI	EPA	NXY	TH	BQ	OGJ	LK	WR	FM	DS
H	NYAO	UFK	GJW	QI	DT	BLH	ES	VR	CX	PM
I	KHIV	GYC	RPS	FO	JX	QWA	TU	DB	EM	NL
J	BWOA	DPJ	UGY	NH	RE	VCI	TS	LM	FQ	KX
K	PCWX	RQF	JVM	OY	HS	EGD	BN	KT	UA	IL
L	COPK	ASM	TDJ	WX	IH	NUR	GB	OL	YE	VF
M	BWRF	JPC	QON	AV	HG	IML	DU	SK	YX	ET
N	HQIA	XLC	FVB	SK	OJ	MUD	RW	YN	GE	TP
O	CWQF	KJS	XHP	AE	TN	UGY	VL	MD	RI	OB
P	NWFD	OBS	RJX	PH	YT	ICM	OG	AV	LU	KE
Q	PAFT	NSC	DGR	QM	WX	HKI	OE	YJ	UB	LV
R	SNGD	JTP	WYI	CR	BE	IOV	MX	FH	OK	LA
S	AMRH	NJG	OUY	SE	IO	KDL	PV	XC	WB	FT
T	YWGS	VXE	IDC	KQ	OA	TPH	BU	JR	ML	NF
U	BCDL	FOR	AUT	NV	GW	SXK	Pi	ME	HQ	JY
V	RMQD	WVS	YJX	TG	UL	FEK	PB	OA	NH	IC
W	BOKA	HXS	SLC	PD	BT	EFQ	N	WM	JQ	UY
X	ASLW	YVD	TRO	BE	CI	PFX	HG	MIN	RF	IG
Y	DLTV	NEQ	PAS	XB	OC	MJH	KW	VO	OD	TM
	XSIC	YGP	NFW	HE	KL	JAR	VO	OD	TM	BU

DAY 17

KTC 1400 A

7. SAMPLE TABLE

(PROTECTIVE MARKING)

NAO 3B

SECURITY THOUGHTS

Following are common rules to achieve security:

- Change message set after 15 numbers are encrypted.
- Encrypt brevity values.
- Never encrypt or decrypt a message and then repeat it in plain language.
- Avoid the encrypting of information known to the enemy.
- Make all transmissions as short as possible.
- Remember that anyone can listen to your transmission.

INSTRUCTIONS FOR INSERTING CIPHER TABLE

IN KAL 61

- Unfasten flap at the bottom of device and bend back out of the way.
- Slide the cipher table face up under the lips at the top and sides of the device.
- Before refastening the flap, adjust cipher table so that the top register marks (+) at the bottom of the table will align precisely with the snaps when the flap is fastened.

TRANSMISSION AUTHENTICATION TABLE

01	02	03	04	05	06	07	08	09	10
HA	VX	YM	WT	MY	OE	JR	AY	RB	IP
DM	VB	ZF	MP	QV	XI	TX	TF	WE	VH
JP	YQ	QL	MA	SS	JZ	SG	XJ	EX	AO
SQ	VC	OR	IS	BM	HN	HB	VN	HW	ZK
NK	UD	FU	CM	YF	YN	HM	NF	VK	EG
OD	CC	WA	UF	OC	OQ	MW	GD	CD	XA
SW	MQ	QP	ES	YL	ZY	SV	IB	AR	ZL
RG	KM	RL	GO	OF	OK	BX	II	ND	EA
MM	OH	OK	RZ	NE	ZT	AN	FG	GB	PB
IF	DC	UV	SB	FA	VZ	MD	BD	XE	HR
DAY 23									A
									KTC 1400

(PROTECTIVE MARKING)

REFERENCE:

TC 24-2, The Automated "CEOI," Dec 75 (all)

NOTE: NEVER self-authenticate using challenge and reply authentication. If self-authentication is required, use one of the two letter digraphs found in the

113-573-8001

USE AN AUTOMATED CEOI

CONDITIONS:

Given an extract of the division Communications-Electronics Operating Instructions (CEOI) and directions to determine, for a specified time period, any or all of the following:

- a. The frequency(s) of specified unit nets.
- b. The call sign(s) of station(s) within a given net.
- c. Your own item number identifier.
- d. Another station's identity, given its item number identifier.

STANDARDS:

1. Within 2 minutes (for each station), determine the complete individual call sign (to include suffix) assigned by the CEOI to that station, for the time period specified, and state (or show) it to your supervisor.
2. Within 1 minute (for each net), determine the frequency assigned by the CEOI to that unit, for the time period specified, and state (or show) it to your supervisor.
3. Within 2 minutes, determine your own item number identifier as given in the CEOI for the time period specified.
4. Within 2 minutes, determine an unknown station's unit identity.

PERFORMANCE MEASURES:

1. General:
 - a. The CEOI contains specific instructions for the operation of communication systems under a division headquarters--and is the only authorized document from which

subordinate elements will extract information to compile organization/unit CEOIs—for use during tactical training and contingency operations.

b. Call signs, suffixes, and frequencies will be changed simultaneously during each time period throughout the division. Specific call sign and frequency assignments will be transmitted in the clear over nonsecure means of communication. If such transmission is required, the call sign and frequency must be encoded using the current tactical unit operations code or numeral/cipher authentication system. All information is listed according to time periods. When determining call signs and frequencies, be sure you look under the correct time period. (Your supervisor can explain the local time period designation procedure that you should use.)

2. To Determine Call Signs: To find the call signs for a given element (for example: 1/77 Inf, A Co, 1st Plt Ldr), turn to the index (fig. 1a) of the CEOI. Follow the left-hand column of items until you find the parent unit (e.g., 1/77 INF BN). Next, look across from the parent unit to the right-hand column under the item number heading to find the correct item number (6A) and turn to that item number (fig. 2a). Determine the correct time period (01) and look down the column headed by the time period to find the call sign for 1/77 Inf, A Co, 1st Plt (J1M). Then, go back to the index (fig. 1a) and find the item number for suffixes (item No. 2). Turning to that item number (fig. 3), find PLT LDR. Located to the left of PLT LDR is its two-digit suffix (13). Combining the call sign (J1M) with the suffix (13) gives you the complete five-character call sign for the Plt Ldr, 1st Plt, A Co, 1/77 Inf Bn (J1M13).

3. To Determine Frequencies: Frequencies are assigned to each unit according to command echelon. To find the frequency for a given net (for example: 1/77 Inf, A Co, 1st Plt), turn to the index (fig. 1a) and find the parent organization item number, as in paragraph 2 above. Turn to that item number (fig. 2b) and look down the left-hand column until you find the unit you want to communicate with (A Co, 1st Plt). After finding the unit, look to the right under the correct time period (01) to find the right frequency (52.45).

4. Item number Identifiers. Unknown station call signs can be identified by the use of item number identifiers. Each station should know the two-letter identifier for its own net for each time period. To find your item number identifier, follow these steps:

Step 1. Go to the index of your CEOI and find item numbers for both your unit and ITEM NUMBER IDENTIFIERS.

Step 2. Turn to the correct item number for ITEM NUMBER IDENTIFIERS and read down the column under the appropriate time period until you find your unit's CEOI item number. Next, follow that line to the far left column to find your correct two-letter ITEM NUMBER IDENTIFIER. Use this number to identify yourself when entering a net in which you do not normally operate. This gives the other net your CEOI item number from which your station's identity can readily be determined.

Example:

You have just received a call from an unknown station. The individual identified himself using the call sign S9A17 and stated that his item number identifier is AB. The time period is 01, and the individual authenticated correctly when you challenged him. To identify the unknown station, follow this procedure:

Step 1. Go to your index (fig. 1b) and locate the item number for ITEM NUMBER IDENTIFIERS (20). Turn to item number 20 (fig. 4), and look down the left-hand column until you find the two-letter identifier, AB. Next, follow this line across the page to the column of item numbers under the correct time period (01) and read the item number of the unknown station (6A).

Step 2. Turn to the CEOI item number (6A) (fig. 2a). Look under the correct time period (01) for the first three characters of the unknown call sign (S9A). Reading over to the left-hand column, you find this to be the 1/77 INF BN.

Step 3. To identify the last two characters of the unknown station call sign (17), go to the CEOI item for suffixes (2) (fig. 3). Look down the left-hand column until you find the number 17. Read to the right to identify the unknown station as an S2.

In this manner, you have completely identified the unknown station as the S2, 1/77 INF.

NOTE: The CEOI extract and the performance measures section under the task USE KAL 61B, KTC 1400 NUMERICAL CODE TO AUTHENTICATE TRANSMISSION AND ENCRYPT/DECRYPT NUMBERS AND GRID ZONE LETTERS may be cut out and used as a training CEOI.

(PROTECTIVE MARKING)	
KTV 600 B	
01 TARGET ACQ OFF	31 TM SQD SEC DET TK 7
02 AID DE CAMP	32 LN OFF 4
03 C E OFF	33 TM SQD SEC DET TK 8
04 MAINT OFF	34 ATSE
05 AIRCRAFT 12	35 FO RECON TACP 6
06 G3 S3 AIR	36 COMSEC OFF
07 MATERIEL OFF	37 TRANS MOTOR OFF
08 AVLB SEC	38 FSE
09 G1 S1	39 EW OFF
10 MET	40 CHIEF OF STAFF XO
11 ASA OFF	41 SURGEON MED OFF
12 FO RECON TACP 1	42 FO RECON TACP 5
13 SEC TEAM	43 ACE
14 AIRCRAFT 6	44 HQ COMDT
15 FO RECON TACP 3	45 FDC
16 FSCoord	46 TM SQD SEC DET TK 1
17	47 AIRCRAFT 1
18 AG	48 AME
19 SURVEY OFF	49 RADAR
20 FLT OPS	50 AIRCRAFT 10
21 AIRCRAFT 8	51 AIR DEFENSE OFF
22 RECOVERY VEH	52 CHAPLAIN
23 G3 S3	53 AIRCRAFT 5
24 IG	54 SPARE 9
25 PLT SEC TEAM SGT	55 ENGR OFF
26 LN OFF 3	56 NCS
27 TOC CP	57 FO RECON TACP 2
28 SGM CSM	58 AIRCRAFT 7
29 GA S4	59 SPARE 8
30 NAICO	60 SPARE 2
1 OF 20	

Figure 3

(PROTECTIVE MARKING)	
KTV 600 B	
02	03
04	05
06	07
08	09
10	
AA 19A	3G 19A 13A 11A 7 9B 9F 13 15
AD 8	12A 3F 7B 19D 7B 3A 19A 4D 10E
AC 3H	4C 19D 4D 6 3B 19B 14 9F 10D
AE 3A	4A 12A 3B 6C 10E 4D 10B 17B 3
AF 3C	10A 3E 10E 9E 8E 6D 16 10D 19D
AG 3E	4D 7 19D 11 16 3E 9C 11A 11
AH 9F	13 10C 19A 15 3D 9D 8E 17A 3E
AI 7	7C 8D 10C 10B 7D 4B 11B 7B 7A
AJ 6	10C 13 6D 13A 9 5 13 7A 8B
AK 18	3D 16 8A 17B 5 3B 3E 8C 6
AL 17	10E 3 5 9A 9A 13 8C 4C 6B
AM 10C	19C 10 9D 8C 8A 10C 7D 19C 11A
AN 12	12 3D 10A 9C 4B 8B 4D 9C 18A
AO 6B	19B 9A 10 12B 10D 10E 5 14 9F
AP 8D	19 19 3D 3D 17B 3H 10E 9 17C
AQ 9	8E 11A 9 9 14 11B 11 3E 19
AR 7D	15 12 6 17A 19C 19C 3F 3F 9B
AS 3G	9E 9 18A 5 11A 18A 17C 3H
AT 7C	7A 17 8D 10D 4D 9F 17A 9A 18
AU 9B	3A 9F 6C 6A 3H 6A 9E 19A 12B
AV 3F	3B 18A 12 3H 4 8A 9D 3D 16
AW 19B	8C 8B 7A 7C 17A 7 15 6D 3C
AX 10A	18A 14 8 17 8C 3F 19D 13A 17A
AY 5	11A 7A 6A 8B 17 10 17 3 4A
AZ 16	17B 4D 12A 3G 3C 3G 17B 19D 7D
1 OF 3	

Figure 4

REFERENCES:

Unit CEOI
TEC Lesson 936-061-0140-F, CEOI, Part 1: How To Use the CEOI

113-587-2001

OPERATE RADIO SET AN/PRC-77 OR AN/PRC-25

CONDITIONS:

Given a functional radio set (AN/PRC-77 or AN/PRC-25) with all parts, a frequency, call signs, another station within range (can be another radio operator requiring training), knowledge of how to make a radio check, and battery BA-4386. Entering a radio net is not required in this task.

STANDARDS:

Within 2 minutes, assemble the AN/PRC-77 or AN/PRC-25 and make a communication check with the other station.

PERFORMANCE MEASURES:

1. Assembly of Radio Set AN/PRC-77 (fig. 1) (TM 11-5820-667-12, chap 1, pages 1-2 thru 1-5). Inspect radio set to insure that all components are present:

- | | |
|----------------------------|----------------------------------|
| a. Electrical harness. | e. Handset. |
| b. Antenna, AT-892/PRC-25. | f. Cotton-duck bag. |
| c. Antenna, AT-271A/PRC. | g. Receiver-transmitter, RT-841. |
| d. Antenna support. | h. Battery BA-4386. |

2. Installation of Battery (fig. 2) (TM 11-5820-667-12, chap 2, page 2-4, para 2-4).

a. Place radio on control guard, and remove battery box.

b. Do not install battery (BA-4386) until you are certain air vent in battery box works.

(1) Depress valve and blow from the outside; air should pass through the vent.

(2) Release the valve and blow; air should not flow.

c. Check pressure relief valve before installing battery.

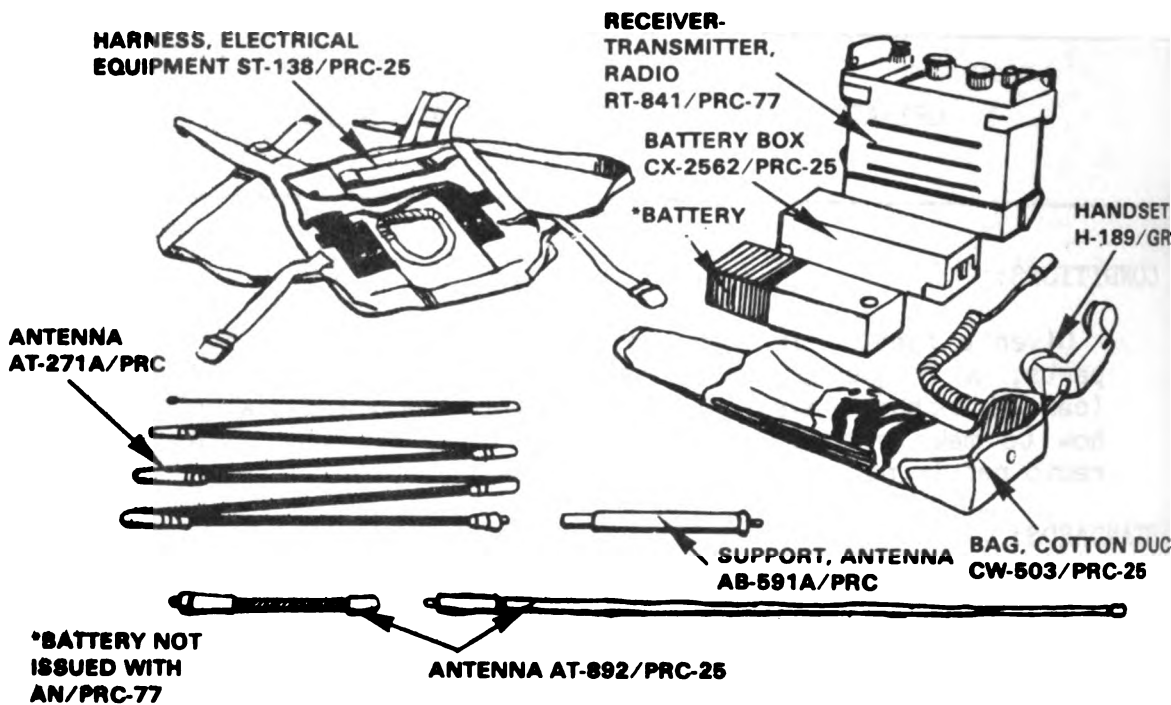


Figure 1. Components.

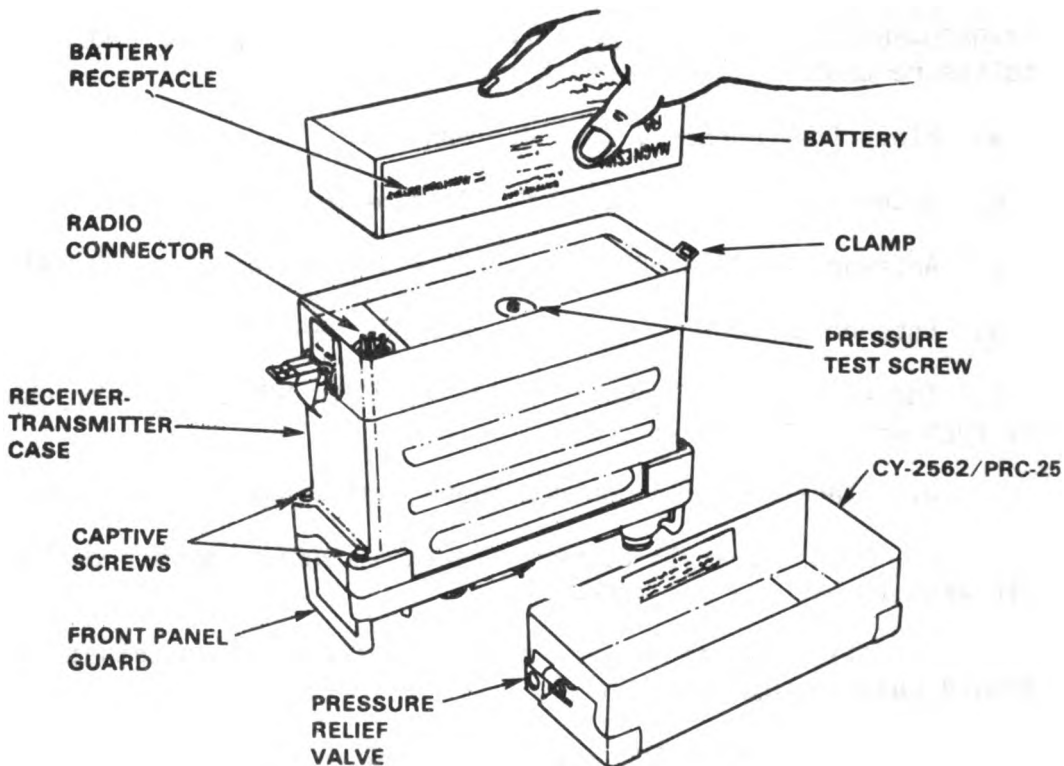


Figure 2. Installing battery in receiver-transmitter.

- d. Place battery in battery box as shown in figure 2.

CAUTION: Do not break floating connector.

- e. Replace battery box and close both latches at the same time.

3. To Operate Set (fig. 3) (TM 11-5820-667-12, chap 3, pages 3-1 thru 3-7).

- a. The numbers of steps 1 through 6 below relate to the numbers in figure 3.

- (1) Install the antenna required for the type of operation in the antenna mount.

- (2) Attach handset H-189/GR to either audio connector.

- (3) Turn the function switch to ON.

- (4) Turn the BAND switch to the desired operating frequency band.

- (5) Turn the MC tuning and KC tuning control knobs until desired frequency appears in the channel dial (7).

- (6) Turn the VOLUME control to 4.

- (7) Press the handset H-189/GR push-to-talk switch and speak into handset; release the push-to-talk switch to listen.

- (8) Adjust the VOLUME control (6) for a desirable sound level.

- (9) To reduce the rushing noise when no signal is being received, turn switch (3) to SQUELCH.

- b. Make a radio check with other stations.

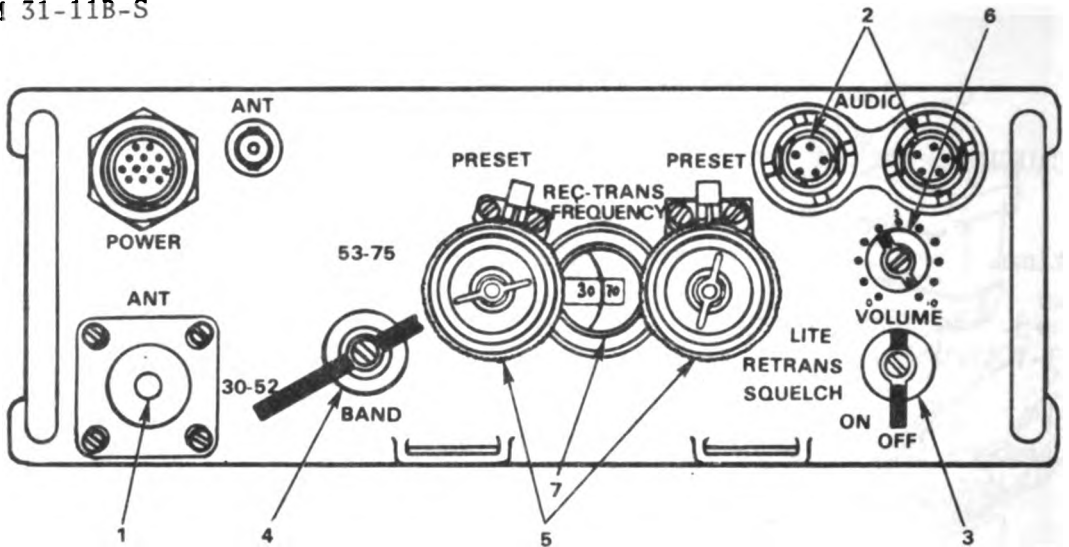


Figure 3

c. To turn set off: Turn the function switch (3) to OFF.

REFERENCES:

TM 11-5820-667-12, Radio Set AN/PRC-77, Jun 67
 TEC Lesson 201-113-4501-F, Preparation of Radio Set, AN/PRC-77 for Operation, Part 1: Install
 TEC Lesson 201-113-4502-F, Preparation of Radio Set, AN/PRC-77 for Operation, Part 2: Operation Checks
 TEC Lesson 201-113-4503-F, Preparation of Radio Set, AN/PRC-77 for Operation, Part 3: Pre-Sets

113-587-3005

PERFORM OPERATOR MAINTENANCE ON RADIO
SETS AN/PRC-77 OR AN/VRC-64

CONDITIONS:

You are participating in a field exercise or performing required garrison maintenance. Given either radio set (AN/PRC-77 or AN/VRC-64), prepared for operation, the appropriate TM, clean cloth, trichloroethylene, mild soapy water, flat tip screwdriver, a radio station within range, call signs, a frequency, a blank DA Form 2404, and TM 38-750.

STANDARDS:

1. Perform all prescribed operator maintenance steps as required by the appropriate TM.
2. Complete DA Form 2404 IAW TM 38-750, paragraph 3-4.

PERFORMANCE MEASURES:

1. Perform all prescribed operator maintenance steps for the AN/PRC-77 IAW TM 11-5820-667-12, chapter 4, pages 4-1 through 4-3, paragraphs 4-1 through 4-8.
2. Perform all prescribed operator maintenance steps for the AN/VRC-64 IAW TM 11-5820-498-12, chapter 4, pages 4-1 through 4-12, paragraphs 4-1 through 4-11.
3. Previously reported faults beyond the operator's capability to repair or those requiring parts are recorded on the Uncorrected Fault Record (DA Form 2408) in the logbook. This form is completed by organizational maintenance IAW procedures outlined in paragraph 4-13 of TM 38-750.
4. Faults which the operator cannot correct or which require a part are recorded on DA Form 2408 IAW procedures outlined in paragraph 3-4 of TM 38-750.

REFERENCES:

TM 38-750, Army Maintenance Management System (TAMMS), C2, May 78
TM 11-5820-498-12, Radio Sets AN/VRC-64 and AN/GRC-160, C5, May 67
(chap 4, pages 4-1 thru 4-12, para 4-1 thru 4-11)
TM 11-5820-667-12, Radio Set AN/PRC-77, C1 thru 4, Jun 67, (chap 4,
pages 4-1 thru 4-3, para 4-1 thru 4-8)
TEC Lesson 201-113-4501-F, Preparation of Radio Set AN/PRC-77 for
Operation, Part 1: Installation

113-578-1002

TAKE A PHOTOGRAPH

CONDITIONS:

You will be given a KS-99C camera set, film, binoculars, and objects to photograph.

STANDARDS:

Take two photographs with camera, one using telephoto lens that are part of camera set and one using binoculars as telephoto lens.

Resulting pictures will be clear and readable.

PERFORMANCE MEASURES:

1. Using camera with its own telephoto lens:

- a. Check battery.
- b. Load camera.
- c. Set ASA/DIN setting.
- d. Select telephoto lens.
- e. Put lens on camera.
- f. Set shutter speed
- g. Focus on object to photo.
- h. Read the meter.
- i. Set f. stop.
- j. Take picture.
- k. Make entry in log.

2. Using camera with binoculars:

- a. Select and put normal lens on camera.
 - b. Divide binoculars field by power magnification.
 - c. Divide camera lens focal length by result of step 2b.
 - d. Set f. stop for that setting. If between f. stops, set f. stop for next lowest f. stop (next higher number) than step 2c.
 - e. Open up two full f. stops.
 - f. Set camera focus on infinity.
 - g. Set binoculars eyepiece at zero.
 - h. Place eyepiece of binoculars flush on the camera lens.
 - i. Read the meter and set shutter speed.
 - j. Take picture.
 - k. Make entry in log.
3. Rewind film and unload camera.

REFERENCES:

Subcourse SSO 501, Still Photography
TM 11-6720-253-10, Operator's Manual, Camera Set KS-99C, Jun 75

113-596-1017

CONSTRUCT FIELD EXPEDIENT ANTENNAS FOR FM RADIOS

CONDITIONS:

You will be given a survival knife, suspension line, antenna wire, a measuring device, an FM radio, call signs, operating frequency, and a radio station within range, in a field setting.

STANDARDS:

Construct a field expedient FM antenna and communicate with designated radio station.

PERFORMANCE MEASURES:

1. Insulation. Insulate the antenna from its supports or from the ground. Although glass and porcelain may be the best materials for insulators, other possible expedients are shown in figure 1.

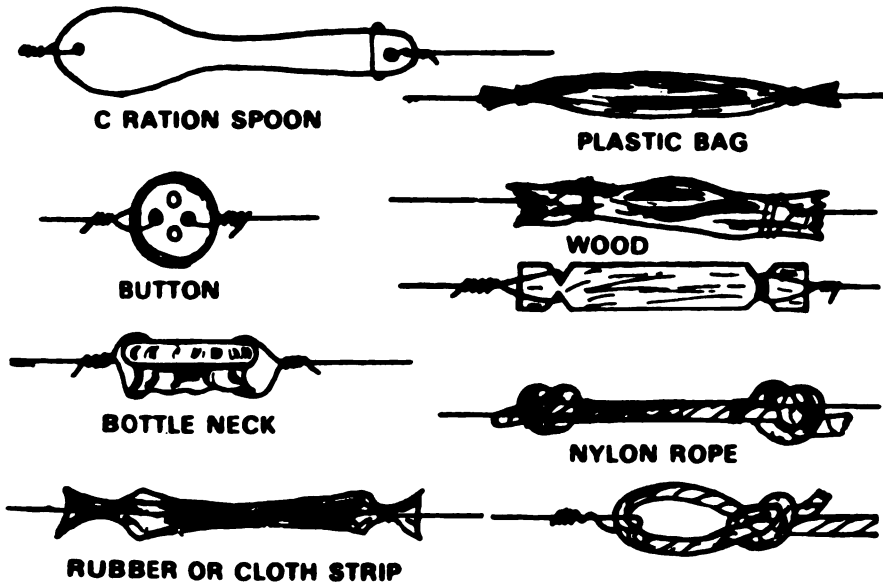


Figure 1. Expedient insulators

2. Quarter-Wavelength Antenna. This antenna is ideal for a net control station (NCS) when operating with different teams and the exact team locations are not known. It can be used with any type of radio and is normally used when a groundwave is desired.

a. Length (in feet) of antenna is computed by dividing 234 by the operating frequency in megahertz.

b. A good ground system is essential (fig. 2).

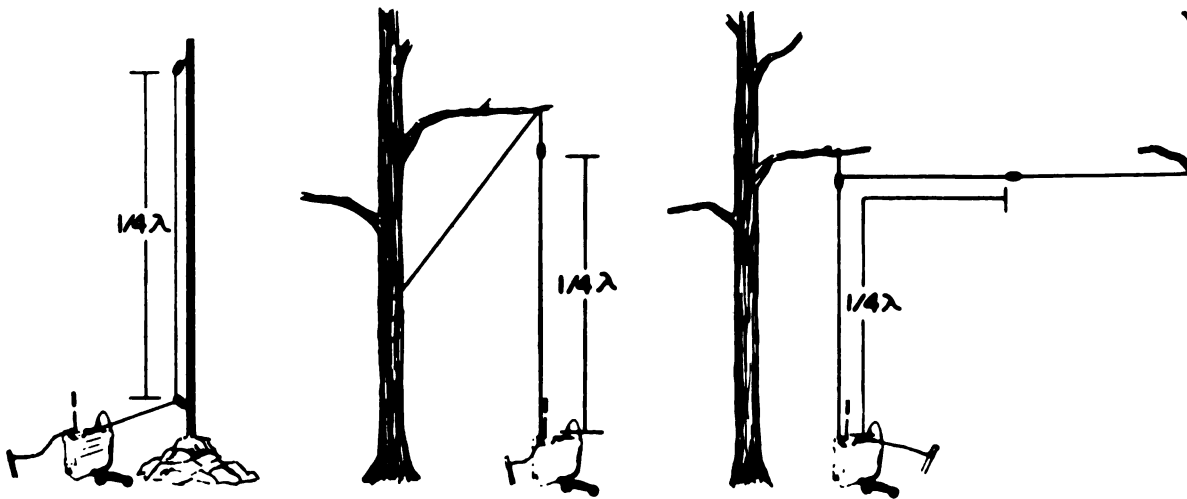


Figure 2. One-quarter-wavelength antenna (vertical).

3. Half-Wave Doublet Antenna. This antenna can be used with any type of radio and can be constructed in a horizontal or vertical plane (fig. 3).

a. It is constructed by using one-quarter-wavelength wire for each side.

b. Wire is fed in the center by coaxial cable or, as a field expedient, by twisted pair of field wires.

c. To connect this antenna to the radio set, one lead goes to the antenna binding post; the other goes to the ground binding post. No additional ground is necessary.

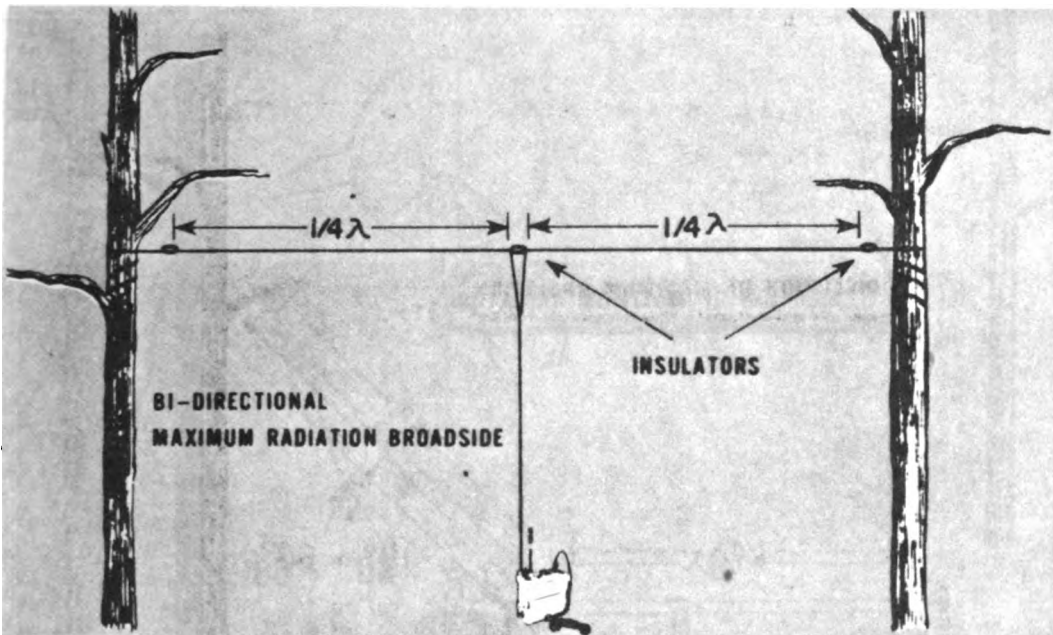


Figure 3. Half-wave doublet antenna.

4. Slant-Wire Antenna. This antenna is an efficient radiating system using a single antenna support (fig. 4).

a. Use two pieces of wire, each piece a quarter-wavelength long.

b. Slant one piece of wire from the antenna support at a 30° to 60° angle and connect it to the antenna post on the transmitter.

c. Use the other wire as a counterpoise. Lay it out just above the ground from the transmitter away from the slanting wire. (If insulated wire is not used, wire must be insulated from the ground.) Connect counterpoise to the radio ground post.

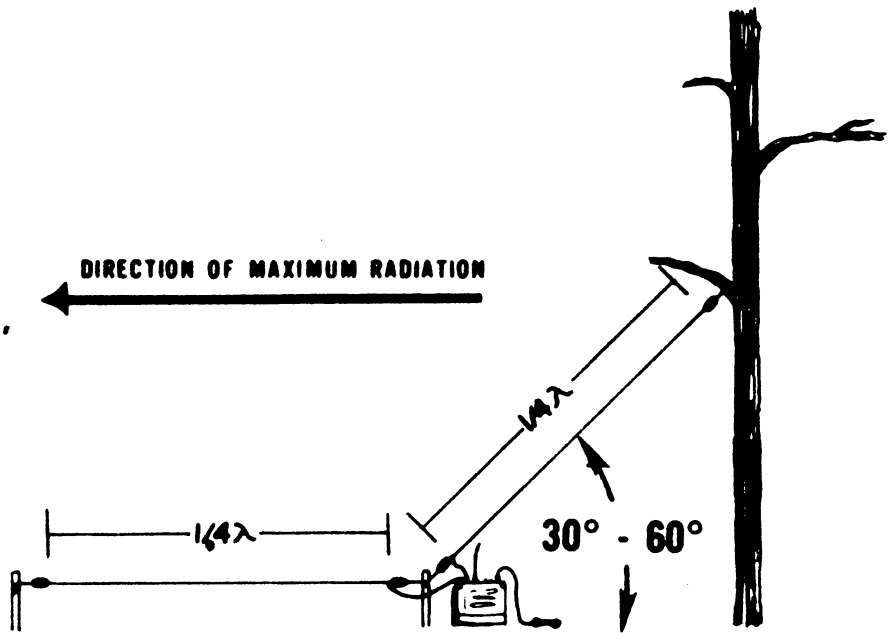


Figure 4. Slant-wire antenna.

5. Other Antennas. If you are operating outside the normal range of FM Radio sets, an antenna system that will allow communication beyond the normal range of current radios can be constructed by using the jungle antenna (fig. 5) or the half-rhombic antenna (fig. 6).

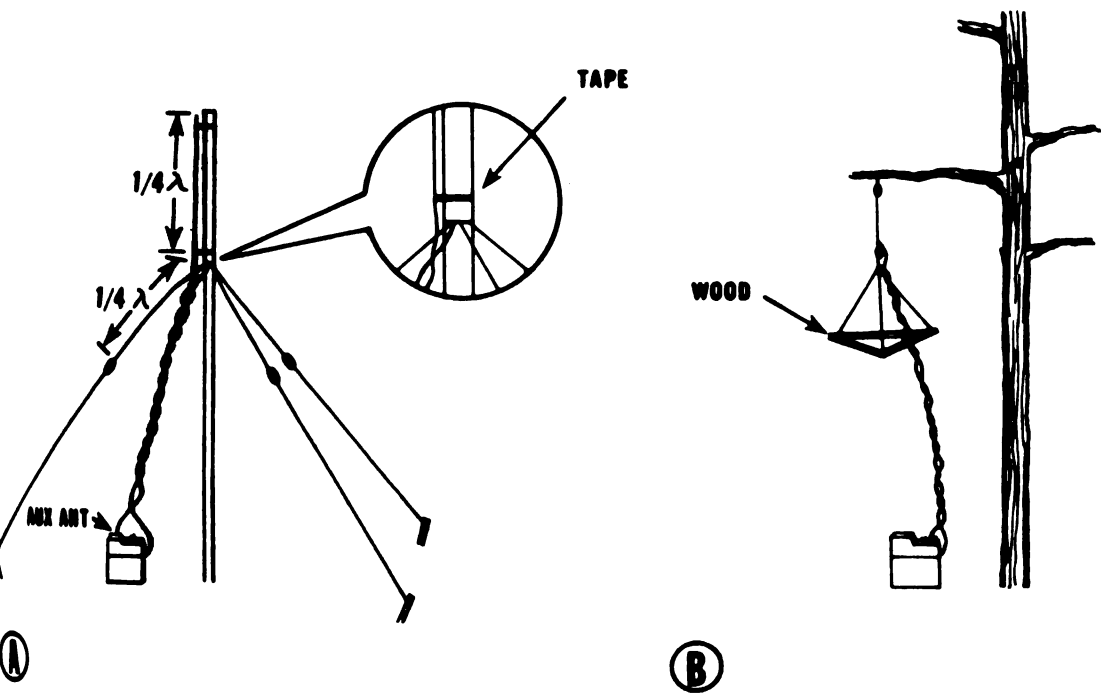


Figure 5. Jungle antenna.

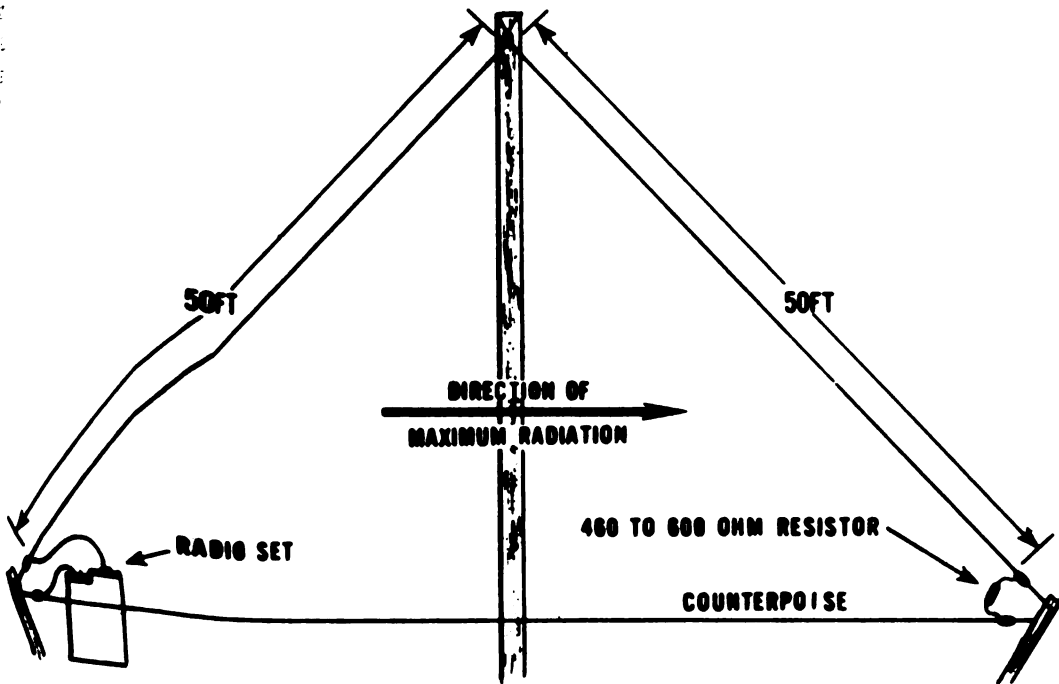


Figure 6. Half-rhombic antenna.

6. Connect antenna to radio and transmit message (see task 113-587-2001).

REFERENCES:

FM 24-1, Combat Communications, Sep 76, (app M, pages M-1 thru M-11)
FM 24-18, Field Radio Techniques, Jul 65, (chap 3, sec 4, para 67)

301-336-X501

SUBMIT AN INTELLIGENCE SPOT REPORT

CONDITIONS:

You will be given a means of communication, local SOP, and the requirement to report information about an opposing force, terrain, and/or weather.

This will be done during an FTX when opposing force activity is observed or indicated, or when the absence of opposing force activity is significant.

STANDARDS:

Report all available information concisely and expeditiously. Protect classified information as required by DOD 5200.1-R and AR 380-5.

PERFORMANCE MEASURES:

1. Collect the information to be included in the spot report. Use local spot report forms if available, or--

a. State your unit's identification.

b. Answer the questions: Who? What? Where? When? and How? (para 6-4, FM 30-5).

NOTE: A good reminder is the word "salute" (para 55, FM 21-75).

Size
Activity
Location
Unit
Time
Equipment

2. Report the information through channels as quickly as possible (para 55, FM 21-75).

3. If the report is classified, protect the information from compromise (para 6-4, FM 30-5).

REFERENCES:

DOD 5200.1-R, Information Security Program Regulation, Nov 73

AR 380-5, Department of the Army Supplement to DOD 5200.1-R,
22 Jul 74

FM 21-75, C4, Combat Training of the Individual Soldier and
Patrolling, Jul 67 (chap 4, page 54)

FM 30-5, Combat Intelligence, Oct 73

331-915-0619

PREPARE A FIELD SKETCH

CONDITIONS:

You will be given an area/object to sketch, a pencil, and paper.

1. Sketch an area/object so that it can readily be identified by others on the ground.
2. Sketch an area/object so that it can be identified on an aerial photograph or topographical map.

PERFORMANCE MEASURES:

1. Field sketches are normally prepared to depict manmade objects that have a bearing on the UW situation. Sketches will include but will not be limited to:

- a. Information on the enemy--
 - (1) Positions (LPs, OPs, CPs, etc.).
 - (2) New/unusual equipment and markings.
 - (3) Uniform (patches, ranks, etc.).
- b. Components of systems, such as--
 - (1) Weapons systems.
 - (2) Power systems.
 - (3) Water supply systems.
 - (4) Sewage systems.
- c. Buildings and other structures.
- d. Rivers, roads, footpaths, etc.
- e. Terrain features (hills, gullies, forests, etc.).

2. Preparation.

a. Sketch must be drawn to "north" and include a "north-seeking arrow."

b. Except for rivers, roads, routes, etc., all writing on the sketch will be horizontal to north.

c. For ground-view identification:

(1) Areas. Indicate--

(a) Shape and approximate dimensions.

(b) Location of buildings/structures; enemy positions; terrain features (i.e., hills, rivers, forested areas, etc.); and roads, trails, etc., within the area.

(c) Color of buildings/structures if the color is an identifiable feature.

(2) Objects.

(a) Sketch from two different angles if possible.

(b) Indicate all identifiable features such as shape, size, color.

d. For aerial-view identification:

(1) Areas. Same as 2c(1), above.

(2) Objects. Indicate shape looking down on the object, color, location within an area, whether it can be easily moved.

e. The following information must be included or accompany each sketch:

PREPARED BY: (Name (code)/unit.)

OBJECT: (Area/item sketched.)

DTG: (Time sketch was started.)

COMPLETE DTG: (Time sketch was completed.)

LOCATION: (Of object.)

DIRECTION TO OBJECT: (General/specific azimuth.)

DISTANCE TO OBJECT: (How far away you were when sketching object/area.)

REASONS: (Why sketch was made.)

REMARKS: (Any additional information that has bearing on the value of the sketch or its use.)

REFERENCE:

None.

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331-915-0620

MARK LANDING ZONE FOR ROTARY-WING AIRCRAFT

CONDITIONS:

You will be given the necessary day or night marking devices, an area suitable for helicopter landings, and size of the landing zone required.

STANDARDS:

Within 30 minutes, properly mark a landing site for a helicopter. Use the guidelines provided below.

PERFORMANCE MEASURES:

1. Types of Markings.

a. Daylight marking devices will normally consist of panels or smoke.

b. Nighttime marking devices will normally consist of fire pots, flashlights, or other light sources that are clearly visible to the pilot(s) of the helicopter(s).

2. Wind Direction. The reception committee leader (RCL), upon arriving at the landing zone, will determine the wind direction by use of his compass. Once wind direction is determined, he will insure the stem of the "Y" points into the general heading of the wind direction. The pilot will land into the wind between light "D" and "E" and not forward of light "C." (See fig. 1.)

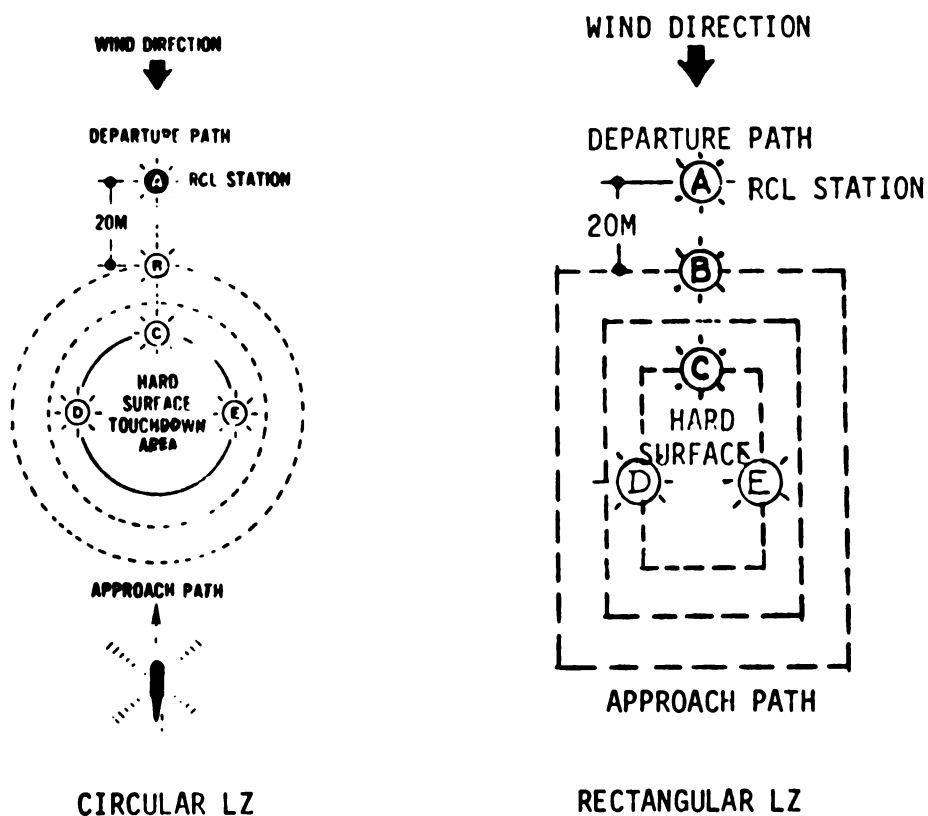
3. Dimensions of Landing Zone. Refer to task Select Landing Site for Rotary-Wing Aircraft. This task provides the information on size of landing sites/zones.

4. Marking.

a. Visual markings for helicopter landing zones provide the wind directions, identification, direction of approach, and the designated touch-down area. Visible light sources are used at night and panels in daylight as prescribed by/in the CEOI.

b. In order not to disclose the landing to the enemy, markings should be kept to a minimum and displayed only when required. The markings should be firmly secured or removed before the helicopter hovers so they will not blow up into the rotors engine intakes.

c. Landing zone markers should be adjusted to the existing winds. When surface winds are a factor (10 knots or more for infiltrations under load and 15 knots or more for exfiltrations under load), the markers will be positioned to insure landing is made into the wind, regardless of the approach track established in the mission request and confirmation message. The helicopter will make its initial approach to the landing zone along the designated track and, if necessary, will adjust to the final approach track indicated by the landing zone markings. The following illustration shows the helicopter landing zone "Y" marking pattern used for night operations.



NOTE: The positioning of markers B, C, D, and E will vary with the type LZ to be used.

Fig. e 1

5. Obstacles. Obstacles must be marked for daylight and night helicopter operations.

a. During daylight helicopter operations, obstacles that may be difficult to detect and impossible to remove such as wires, holes, stumps, and rocks should be marked with red panels or any other easily identifiable means.

b. During night helicopter operations, red lights will normally be used to mark all obstacles within a landing zone that cannot be easily eliminated. In most combat situations, it is impractical for security reasons to use red lights to mark the tops of these on the approach and departure ends of a landing zone. In a training situation, however, or in rear area landing zones, red lights should be used whenever possible. In the event that obstacles cannot be marked, aviators should be thoroughly advised of existing obstacles by ground-to-air radio.

6. Display and Authentication.

a. Landing zone markings will be displayed for 4 minutes, beginning 2 minutes before and remaining 2 minutes past the scheduled arrival time or until offloading/onloading is completed and the helicopter departs.

b. Authentication procedures/code signals will be prescribed in the CEOI; however--

(1) Arrival at the landing zone within the specified time block on or near the designated approach track will serve to authenticate the mission aircraft.

(2) At night, the RCL displays the proper authentication code signal by flashing a green light or other designated signal aimed towards the approach track of the oncoming aircraft. When the helicopter is on its final approach, the RCL then displays a continuous green light aimed at the underside of the fuselage to assist pilot ground orientation.

(3) In daylight, a distinctive panel or smoke signal is displayed. When smoke is used, the landing zone must be planned to preclude the prevailing wind from causing the smoke to obscure the landing zone.

REFERENCE:

TC 31-20-3, Special Forces Air and Maritime Operations (U), Jun 78 (chap 2, pages 68-72)

331-915-0621

SELECT LANDING SITE FOR ROTARY-WING AIRCRAFT

CONDITIONS:

You will be given the mission/requirement, time, and size of landing site required. Select a landing site for one helicopter. This will be done in a field environment under acceptable weather conditions.

STANDARDS:

Select an appropriate landing site using the guidelines/criteria below.

PERFORMANCE MEASURES:

1. Criteria for Landing Sites. The size of the landing site will depend on the number of landing points within it and the size of these landing points. The criteria as provided in figures 1 through 6 represent the minimum dimensions of each landing point. The helicopter units will designate size 1, 2, 3, or 4 circular landing points or size 3 or 4 rectangular landing points to be used by their units for specific operations. Numerous considerations such as helicopter type, unit proficiency, nature of loads, climate conditions, and day or night operations may apply to size of landing point used. Recommended distances between landing points within a landing site are as follows:

- a. Size 1 80 ft (25 meters)
- b. Size 2 115 ft (35 meters)
- c. Size 3 165 ft (50 meters)
- d. Size 4 330 ft (100 meters)

NOTE: Measured from center to center.
--

2. Approaches. Ideally, there should be obstruction-free approach and exit paths into the prevailing wind; in conditions of light wind by day, a single approach/exit is acceptable. The normal maximum obstruction angle, measured from the outer edge

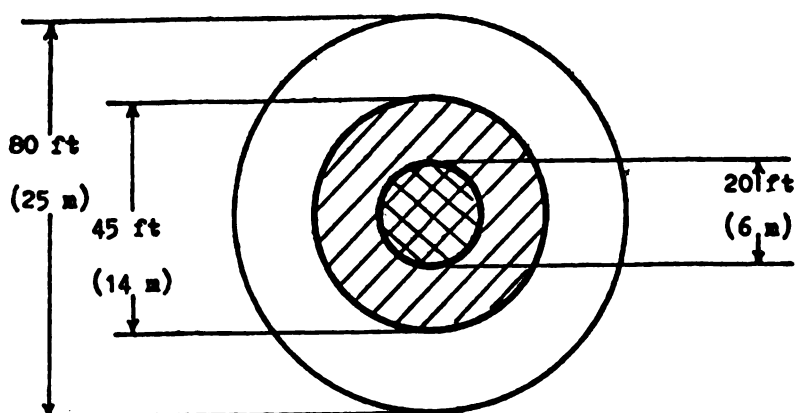
of the area cleared to ground level, should be 60° or 1 in 10 (see fig. 7). However, greater obstruction angles may be acceptable, but this must be confirmed by the helicopter unit.

3. Surfaces. The surface of the center of the landing point must be even and sufficiently firm to allow a fully loaded ground vehicle (e.g., one-fourth ton for light helicopters; 3 tons for larger helicopters) to stop and start without sinking. The whole landing point must be cleared of any loose material or piles of dust/sand which could be blown up by the rotors of the helicopter. Landing points with sandy or dusty surfaces should be stabilized or covered by an agreed method. Any snow on any landing point should be packed or removed to reveal any hazardous objects and reduce the proportion of blowing snow; a marker is essential to provide a visual reference for depth perception and also to reduce the effect of whiteout.

4. Slope of Ground. The ground should be relatively level, and the slope should not exceed 7° (1 in 8) if the helicopter is to land. However, at the pilot's discretion, it may be possible for a helicopter to hover just in contact with the ground on slopes of greater than 7° (1 in 8).

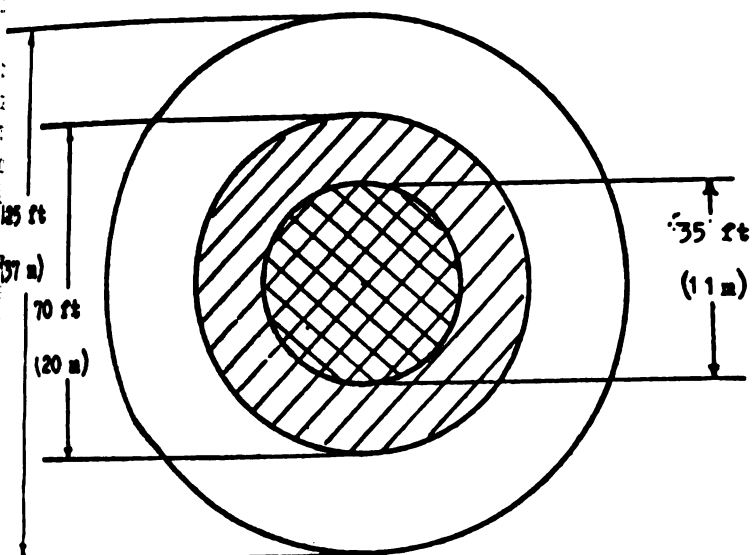
5. Concealment. A landing site close to forward troops should be below the line of sight of enemy ground observation with, when possible, an approach/exit route giving similar cover.

HELICOPTER LANDING POINTS



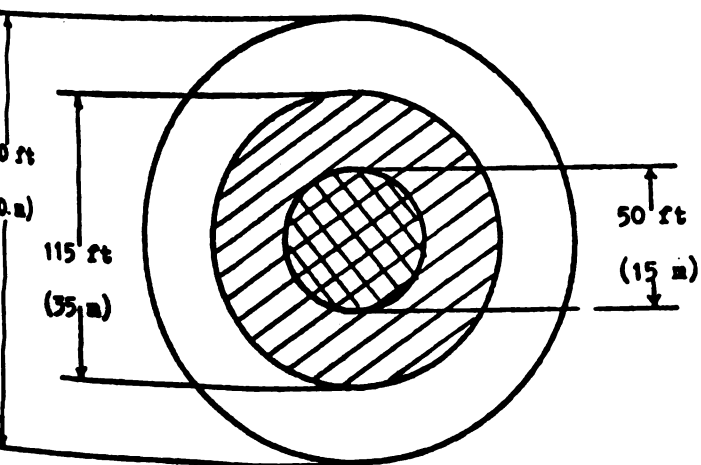
SEE LEGEND

Figure 1. Size 1 landing point.



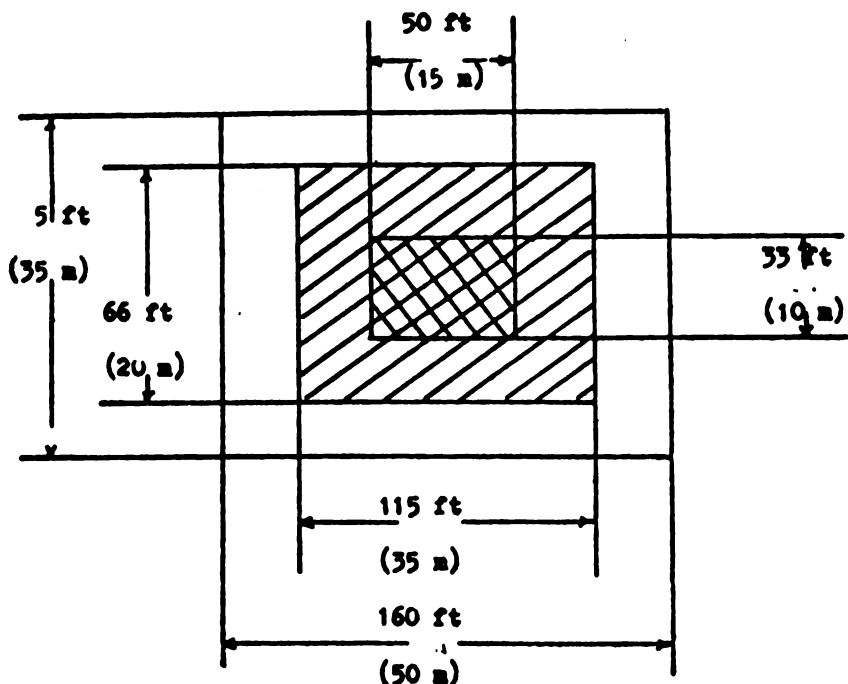
SEE LEGEND

Figure 2. Size 2 landing point.



SEE LEGEND

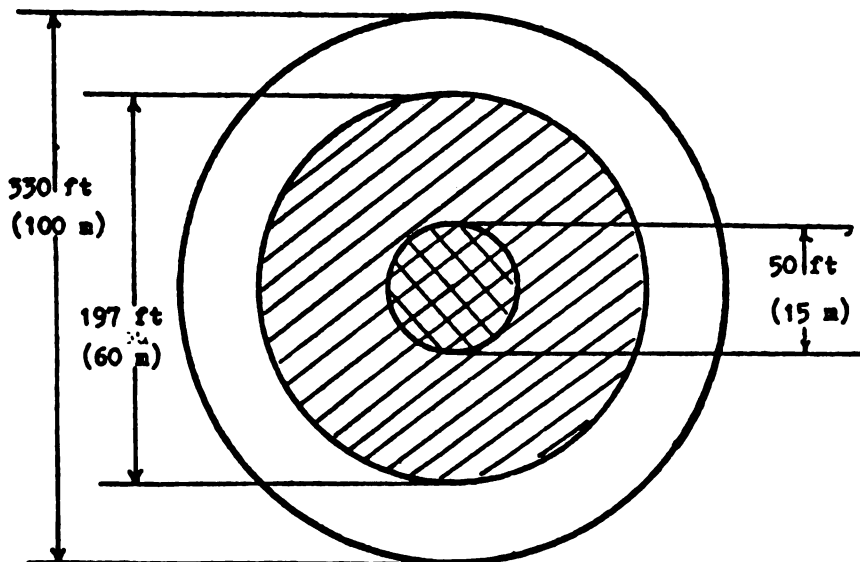
Figure 3. Size 3 landing point, circular.



SEE LEGEND

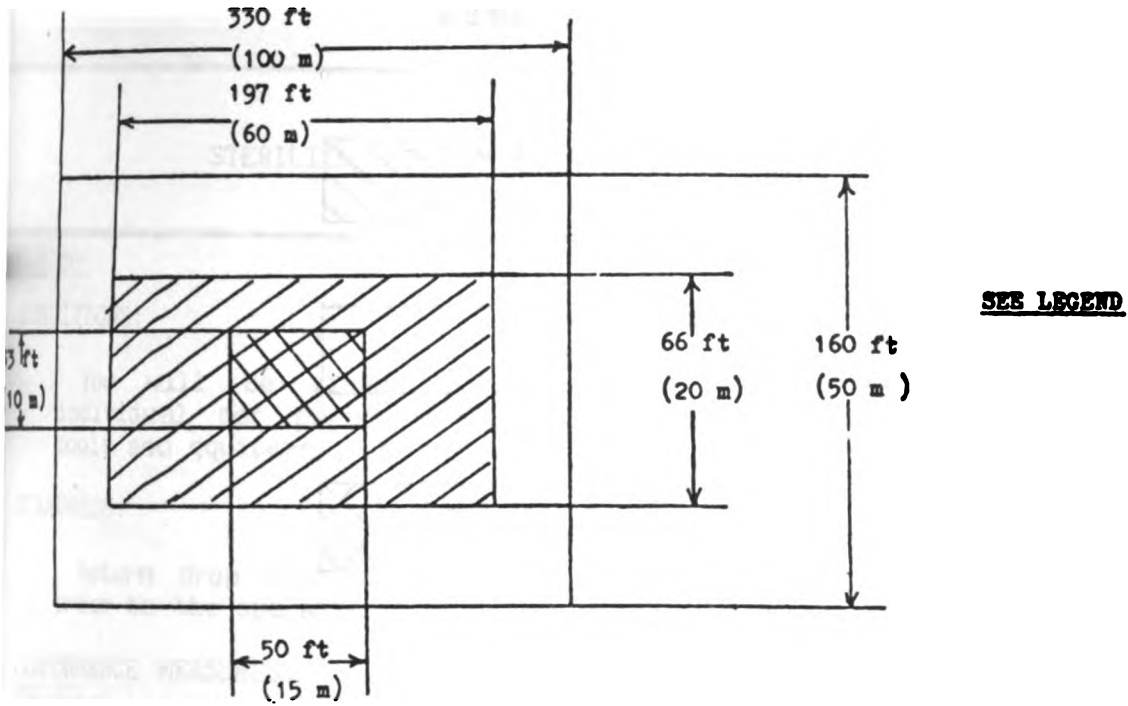
NOTE: Approach/exit will be made on the longitudinal axis of the clearing.

Figure 4. Size 3 landing point, rectangular.



SEE LEGEND

Figure 5. Size 4 landing point, circular.



NOTE: Approach/exit will be made on the longitudinal axis of the clearing.

Figure 6. Size 4 landing point, rectangular.

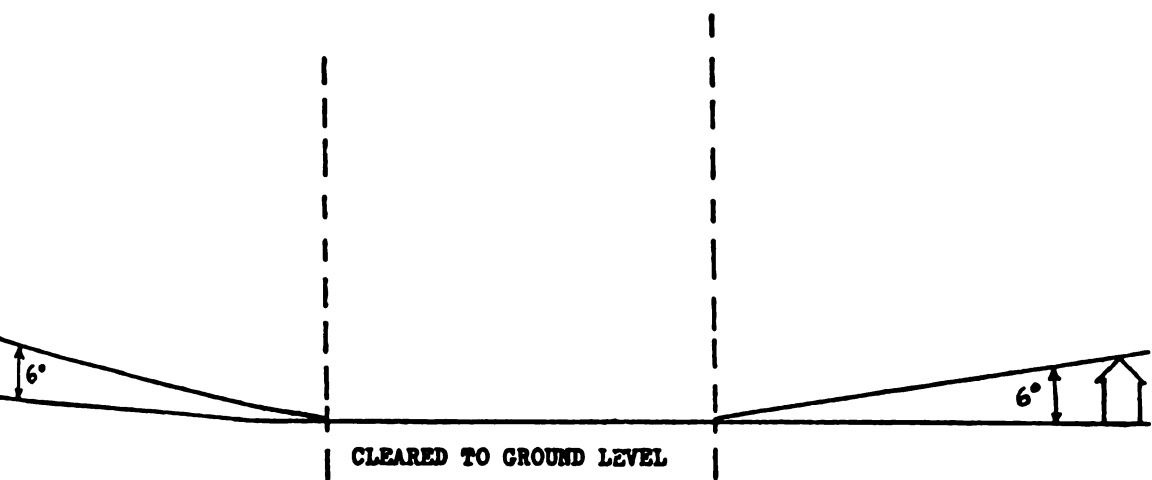
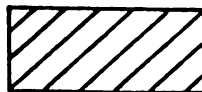


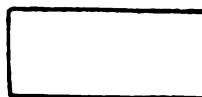
Figure 7. Landing point obstruction angle.

LEGEND

**CLEARED 1:0
GROUND LEVEL**



**FREE OF OBSTRUCTION
OVER 2 FT (0.6 M) HIGH**



HARD SURFACE



REFERENCE:

**TC 31-20-3, Special Forces Air and Maritime Operations (U),
Jun 78 (chap 2, pages 68-72)**

331-915-0622

STERILIZE DROP ZONES AND LANDING ZONES

CONDITIONS:

You will be given personnel to cover the mission (one individual per parachutist, two per door bundle), necessary tools and equipment, and materials found in the area.

STANDARDS:

Return drop zone or landing zone to the condition it was in prior to the operation.

PERFORMANCE MEASURES:

1. Police or obliterate cigarette butts, candy and gum wrappers, equipment, and other signs of occupancy such as crushed undergrowth, heel scuffs, trails, and human waste.

2. Recover all rigging straps and other air delivery equipment.

3. Assign an individual at the recovery collection point to be responsible for accounting for air items and packages as recovery teams bring them off the DZ/LZ.

4. Provide a two- or three-man surveillance team to maintain a close watch on the DZ/LZ area for enemy activity during the 48 hours following the drop.

REFERENCE:

ST 31-201, Special Forces Operations, Nov 78 (chap 6)

331-915-0623

PERFORM AN AREA ASSESSMENT

CONDITIONS:

You will be given area study, operational area intelligence, maps and photographs of the area.

STANDARDS:

Indicate the changes to be made in the operational area intelligence in your area of responsibility for your duty position.

PERFORMANCE MEASURES:

1. An area assessment is the immediate and continuing collection of information started after infiltration into an unconventional warfare operational area (UWOA). It--

a. Confirms or refutes previous intelligence acquired as a result of area studies and other sources prior to infiltration.

b. Is a continuing process.

c. Forms the basis for modifying and replanning operational and logistical support for operational area.

d. Includes reevaluation of information of the enemy, weather, and terrain.

e. Includes reanalysis of the information concerning differently motivated segments of the civilian populace supporting operations.

2. The major categories and subcategories in the principal area assessment are--

a. Enemy.

(1) Disposition.

- (2) Composition, identification, and strength.
- (3) Organization, armament, and equipment.
- (4) Degree of training, morale, and combat effectiveness.
- (5) Operations:
 - (a) Recent and current activities of the unit.
 - (b) Counterguerrilla activities and capabilities with particular attention to reconnaissance units, special troops (airborne, mountain, ranger), rotary-wing and vertical-lift aviation units, counter-intelligence units, and units having a mass CBR delivery capability.
- (6) Unit areas of responsibility.
- (7) Daily routine of the units.
- (8) Logistical support to include--
 - (a) Installations and facilities.
 - (b) Supply routes.
 - (c) Methods of troop movement.
- (9) Past and current reprisal actions.

b. Security and Police Units.

- (1) Dependability and reliability to the existing regime or the occupying power.
- (2) Disposition.
- (3) Composition, identification, and strength.
- (4) Organization, armament, and equipment.
- (5) Degree of training, morale, and efficiency.
- (6) Utilization and effectiveness of informers.
- (7) Influence on and relations with the local populace.

(8) Security measures over public utilities and government installations.

c. Civil Government.

(1) Control and restriction, such as:

(a) Documentation.

(b) Rationing.

(c) Travel and movement restrictions.

(d) Blackouts and curfews.

(2) Current value of money and wage scales.

(3) The extent and effect of the black market.

(4) Political restrictions.

(5) Religious restrictions.

(6) Control and operation of industry, utilities, agriculture, and transportation.

d. Civilian Populace.

(1) Attitudes toward the existing regime or occupying power.

(2) Attitudes toward the resistance movement.

(3) Reaction to US support of the resistance.

(4) Reaction to enemy activities in the UWOA.

(5) General health and well-being.

e. Potential Targets.

(1) Railroads.

(2) Telecommunications.

(3) POL.

(4) Electric power.

(5) Military storage and supply.

- (6) Military headquarters and installations.
- (7) Radar and electronic devices.
- (8) Highways.
- (9) Inland waterways and canals.
- (10) Seaports.
- (11) Natural and synthetic gaslines.
- (12) Industrial plants.
- (13) Key personalities.

f. Weather.

- (1) Precipitation, cloud cover, temperature, visibility, and seasonal changes.
- (2) Wind speed and direction.
- (3) Light date (BMNT, EENT, sunrise, sunset, moonrise, moonset).

g. Terrain.

- (1) Location of areas suitable for guerrilla basepoints and other installations.
- (2) Potential LZs/DZs and other reception sites.
- (3) Routes suitable for:
 - (a) Guerrillas.
 - (b) Enemy forces.
- (4) Barriers to movement.
- (5) Seasonal effect of the weather on terrain and visibility.

h. Resistance Movement.

- (1) Guerrillas.
 - (a) Disposition, strength, and composition.

(b) Organization, armament, and equipment.

(c) Status of training, morale, and combat effectiveness.

(d) Operations to date.

(e) Cooperation and coordination between and among various existing groups.

(f) General attitude toward the United States, the enemy, and various elements of the civilian populace.

(g) Motivation of the various groups and their receptivity.

(h) Caliber of the senior and subordinate leadership.

(i) Health.

(2) Auxiliaries and the underground.

(a) Disposition, strength, and degree of organization.

(b) General effectiveness and type of support.

(c) Motivation and reliability.

(d) Responsiveness to guerrilla or resistance leaders.

(e) General attitude toward the United States, the enemy, and to various guerrillas.

i. Logistic Capability.

(1) Availability of food stocks and water, to include any restriction for reasons of health.

(2) Agricultural capability.

(3) Type and availability of transportation of all categories.

(4) Types and location of civilian services available for manufacture and repair of equipment and clothing.

(5) Type and amount of supplies locally available.

(6) Medical facilities to include personnel, medical supplies, and equipment.

(7) Enemy supply sources accessible to the resistance.

j. Preventive Medicine.

(1) Weather.

(a) Is the weather cold enough to put emphasis on causes, treatment, and prevention of cold weather injuries?

(b) Is the weather hot enough to put emphasis on causes, treatment, and prevention of hot weather injuries?

(2) Terrain: How does the terrain affect evacuation and medical resupply?

(3) Indigenous personnel.

(a) Physical characteristics: Describe endurance, ability to carry loads, and to perform other physical feats.

(b) Dress: What symbolism is attached to various articles of clothing and jewelry, such as amulets?

(c) Attitudes:

1. What taboos and other psychological attributes are present in the society?

2. Describe rites and practices by witch doctors during illness. What do these rites symbolize?

3. How do indigenous personnel respond to events such as fear, happiness, anger, and sadness?

(4) Housing:

(a) Analyze physical layout of the community.

(b) Determine infestation with ectoparasites and vermin.

(5) Food:

(a) Is food cultivated for consumption? What foods?

(b) How do the seasons of the operational area influence diet? Does migration in search of food occur?

(c) What foods provided by US personnel do the indigenous personnel prefer?

(d) What cash crops are raised?

(6) Water supply, urban: What kind of water treatment plants are used (if any)?

(7) Water supply, rural:

(a) What types of rural water supplies are available? Where are they located?

(b) What treatment is given to water in rural areas? Give attitudes of the indigenous personnel toward standard US purification methods.

(8) Sewage disposal (when applicable):

(a) What are the types and location of sewage treatment plants?

(b) In remote areas, what system is used for disposal of human excrement, offal, and dead animals and humans?

(c) What are the attitudes of the indigenous personnel to standard US methods, such as the use of latrines?

(9) Epidemiology: What specific diseases in each of the following major categories are present among the guerrillas, their dependents, or their animals?

(10) Domestic animals:

(a) What domestic animals are present?

(b) Describe the normal forage.

1. Do owners supplement the food supply? What food supplements are given, if any?

2. Are animals penned or allowed to roam?

(c) Is any religious symbolism or taboo associated with animals ("sacred cows")? Are animals sacrificed for religious purposes?

(d) Are local veterinarians available for animal treatment and ante and post mortem inspections of meats?

(11) Local fauna: Record species of birds, large and small mammals, reptiles, and anthropoids present in the area; if names are unknown, describe (survival purposes).

(12) Poisonous plants: Record those species which are known to be toxic to man through contact with the skin, inhalation of smoke from burning vegetation, or through ingestion (survival).

3. Major changes in the area study indicated by area assessments will be furnished to the SFOB during the course of normal communications. These changes provide the latest intelligence information to the area specialist teams (ASTs).

4. The results of the area assessment should be transmitted to the SFOB only when there is a deviation from previous intelligence and the information would have an impact on plans of higher headquarters.

REFERENCE:

ST 31-201, Special Forces Operations, Nov 78 (para 2-6 and app B)

331-915-0624

DETERMINE THE GUERRILLA TRAINING REQUIREMENTS

CONDITIONS:

You will be given detachment's mission, area study, intelligence reports, estimate of the training situation, map of the area, pencil, and paper.

STANDARDS:

Determine the training required in your area of responsibility. Select the best training system to be used.

PERFORMANCE MEASURES:

You must consider--

a. Personnel making up the resistance force:

- (1) Wide range of education and capability levels.
- (2) Different reasons for joining the resistance force.
- (3) Differences in extent of military experience.
- (4) Language barriers requiring use of interpreters.
- (5) Resistance leaders. Do they need training in the technical and tactical aspects of conducting guerrilla warfare?

b. The training situation.

- (1) Essential training to be conducted. Establish priorities for subject material.
- (2) Training time available.
- (3) Training material available.
- (4) Improvised training aids and mockups for use during the early phase.

(5) Location of range and rehearsal areas. Physical security to preclude enemy detection must be considered. Physical

(6) Use of combat engagements as a training means.

c. The training system:

(1) Centralized training.

(2) Decentralized training.

(3) Individual or on-the-job training.

(4) Specialized training for selected personnel.

In most instances one or all of the systems noted above will be used. To expedite training programs and to provide effective instruction to dispersed units, a centralized training course may be designed and presented to selected resistance personnel who, in turn, act as instructor cadres to dispersed units. When this occurs, a decentralized system is put into effect.

REFERENCE:

ST 31-201, Special Forces Operations, Nov 78 (para 5-16 and 5-17)

331-915-0625

PREPARE A LESSON PLAN

CONDITIONS:

You will be given a specific class to present, an assistant instructor, paper, pencil, list of available training aids, list of available equipment, personal data and number of students to participate, and location and time of class.

STANDARDS:

IAW the training outlined below, prepare a lesson plan that adequately covers the subject assigned. As a minimum, cover the training objective, intermediate training objectives, administrative instructions, training sequence, and time estimate and safety restrictions, if any.

PERFORMANCE MEASURES:

1. The lesson plan is the trainer's game plan. It is developed during the preparation phase of training. Lesson plans are not designed to record every word of a trainer's presentation. Rather, the lesson plan provides a practical and economical aid to preparing training. The lesson plan, properly constructed, also provides a means to record the specific training conducted and to assist future trainers in preparing training. Lesson plans can be supplemented by informal trainer notes to assist the trainer in preparing the Phase I (explanation and demonstration) portion of a training session. Trainer notes may include important opening and closing statements, prompters or other reminders, and key statements pertaining to safety. They are particularly helpful when conducting a rehearsal. Because trainer notes are designed to meet each individual trainer's specific needs, no particular format is recommended.

2. The following minimum information is recommended for inclusion in the lesson plans:

- a. The commander's training objective(s).
- b. All intermediate training objectives (if any) listed in the sequence to be taught.

c. Administrative instructions:

- (1) When the training will be conducted.
- (2) Training location.
- (3) Who will be trained.
- (4) Principal and assistant trainers.
- (5) Training aids, devices, and equipment to be used.
- (6) References.

d. Training sequence and time estimate.

e. Safety restrictions.

f. Additional information required by local SOPs.

3. An example of a lesson plan is at Inclosure 1.

REFERENCE:

FM 21-6, How to Prepare and Conduct Military Training, Nov 75 (app G, page 156)

EXAMPLE LESSON PLAN FOR CONDUCT OF STUDENT TRAINING SESSION

A. TRAINING OBJECTIVE:

TASK: Each soldier will conduct immediate action for an M72A2 light antitank weapon (LAW).

CONDITIONS: Given an expended M72A2 launcher, the direction of the target, and the following instructions: "Your LAW has just misfired. Take the appropriate action."

TRAINING STANDARD: Soldier performs the following in sequence without error or omission:

1. Keeping launcher trained on target, soldier waits 10 seconds*, then places the safety on "SAFE" and removes launcher from his shoulder.
2. Soldier waits 1 minute*, then collapses launcher approximately 4 inches, reextends the launcher, and attempts to fire.
3. If launcher does not fire (trailer indicates), soldier waits 10 seconds* and returns safety "SAFE." Keeping launcher trained on target, he waits at least 1 minute, and if LAW has not fired, he discards LAW IAW unit SOP.

*Times are approximate.

B. INTERMEDIATE TRAINING OBJECTIVES: None.

C. ADMINISTRATIVE INSTRUCTIONS (to be completed by unit):

1. When training will be given.
2. Training location.
3. Who will be trained.
4. Principal and assistant trainers.
5. Training aids and equipment: One expended M72A2 launcher per soldier.
6. Reference: FM 23-33, Jul 70, page 11.

D. SEQUENCE (of) ACTIVITY (and) ESTIMATED TIME:

1. State training objective and reason for learning the task. 1 min
2. Demonstrate the immediate action drill, emphasizing key points. 3 min
3. Conduct walk-through, insuring each student performs each step fully. 3 min
4. Conduct practice until all students are ready to be tested. 3 min
5. Test students individually. Students not being tested may observe test in progress. 3 min
6. Retrain and retest students who are NO-GO. 2 min

TOTAL 15 min

E. SAFETY RESTRICTIONS: None.

F. ADDITIONAL COMMENTS AND INFORMATION: None.

331-915-0626

USE CATALOG SUPPLY SYSTEM TO REQUEST ITEMS

CONDITIONS:

You will be given a sample extract of catalog supply system (CSS), a supply request, pencil and paper, and message format.

STANDARDS:

Accurately translate the request for supplies into message format.

PERFORMANCE MEASURES:

1. A catalog supply system (CSS):

a. Is a brevity code system established to support SF detachments when requesting delivery of supplies into an operational area.

b. Should be developed for units based on mission requirements, contingency plans, and unit field SOPs.

c. Is printed in the language of the indigenous UW force as well as in English.

d. Identifies a single major item of several associated items by a code word. Items not listed should be requested by nomenclature in sufficient detail to insure understanding at the SFOB.

2. The CSS is not secure by itself, but it serves to reduce message length and transmission time when a variety of supplies are requested. Examples of a CSS used here are for illustrative purposes and brevity, and do not provide any degree of security. The CEOI will prescribe those code designations for actual operational missions.

a. Each broad classification of supply is listed in sequence by an assigned code letter designation:

SECTION	DESIGNATION
Chemical	ALPHA ALPHA through DELTA ZULU
Demolitions and Mines	ECHO ALPHA through HOTEL ZULU
Medical	INDIA ALPHA through LIMA ZULU
Weapons and Ammunition	MIKE ALPHA through PAPA ZULU
Quartermaster	QUFREC ALPHA through TANGO ZULU
Signal	UNIFORM ALPHA through WHISKEY ZULU
Special	X-RAY ALPHA through ZULU ZULU

b. Some units and packages are followed by a numbered list showing the contents of the package or unit. The unit or package can be ordered complete, or any numbered item may be ordered separately. For example:

- (1) Six radio sets AN/PRC-77 are required.
- (2) Under Signal appears the code designation UNIFORM HOTEL.
- (3) Item 1 under Unit Data Contents reads "Two AN/PRC-77 complete."
- (4) Your request would read THREE UNIFORM HOTEL ONE indicating six radios are required.

EXAMPLE CATALOG SUPPLY SYSTEM

MEDICAL				
	Unit designation	Unit wt	No. pkgs.	Unit data contents
A	Chemical Grenade No. 1 (16 rds).	46 lbs	1	Sixteen grenades, hand, smoke WP, M15, packed in individual containers.
A	Water testing Kits (24)	50 lbs	1	Twenty-four water testing kits chemical agents, AN-M2.
A	Napalm	42 lbs	1	Eight cans chemical agent thickener, five ¼ lb cans.
DEMOLITIONS AND MINES				
	Unit designation	Unit wt	No. pkgs.	Unit data contents
A	Demolitions No. 1 (20 blocks).	50 lbs.	1	20 blocks, demolition, M5A1 (2 ½-lb comp C-4).
ROT ROT	Electric Demolition Unit No. 2.	740 lbs	14	1. One electric demolition unit No. 1. 2. 250 caps, blasting, special, electric, Type II, J2, PETN, packed 50 per box. 3. One detonating cord unit. 4. Twelve demolitions units No. 1.
	Anti-Personnel Mines, No. 3.	45 lbs	1	15 weapons, AP, M18, Claymore.
MEDICAL				
	Unit designation	Unit wt	No. pkgs.	Unit data contents
T	Narcotics Unit	20 lbs	1	1. 120 boxes morphine sulfate, 15-mg syrette, 5 per box. 2. Six boxes of nalorphine hydrochloride injection, six per box. 3. 24 bottles of codeine phosphate, 30-mg tablet, 10 per bottle. 4. Six bottles of meperidine hydrochloride, small.
T	Typhoid Immunization	18 lbs	1	50 vials of typhoid—paratyphoid vaccine, 50-cc vial.
T	Gamma Globulin	10 lbs	1	Ten bottles of globulin, immune serum, 10-cc bottle.

WEAPONS AND AMMUNITION

Code	Unit designation	Unit wt	No. pkgs.	Unit data contents
MIKE HOTEL	Sniper Rifle (6)	165 lbs	3	1. Two rifles, cal .30, M1C, complete (23 lbs). 2. 480 rds, cartridge, AP, cal .30, 8-rd clips in band packed in ammunition can, M-8 (2 cans, 32 lbs).
NOVEMBER CHARLIE	Rifle Ammunition No. 1 (2880 rds).	192 lbs	3	960 rds, cartridge, AP, cal .30, 20-rd cartons, packed in ammunition can, M8 (4 cans, 64 lbs).
NOVEMBER PAPA	Grenade No. 1 (50 rds)	60 lbs	1	50 grenades, hand, fragmentation, M26 (T38E1), in individual containers (60 lbs).

QUARTERMASTER

Code	Unit designation	Unit wt	No. pkgs.	Unit data contents
QUEBEC BRAVC	Clothing Equipment—100 personnel.	2100 lbs	50	Consists of 50 two-man units.
ROMEO BRAVO	Rations, Indigenous Personnel—500 men.	8500 lbs	170	High fat content meat or canned fish, poultry, suabacco, salt, coffee, or tea, grain, flour or rice, and items, and water purification tablets (50 lbs).
ROMEO ECHO	Packet, barter	500 lbs	10	50-lb packages.

SIGNAL

Code	Unit designation	Unit wt	No. pkgs.	Unit data contents
UNIFORM ECHO	Flashlights (20)	45 lbs	1	1. 20 flashlights (15 lbs). 2. 120 batteries, BA 30 (30 lbs).
UNIFORM HOTEL	Radio Set AN/PRC-77(2)	99 lbs	1	1. Two AN/PRC-77 complete (47 lbs). 2. 12 batteries, BA-4386 (52 lbs).
UNIFORM OSCAR	Telephones Sound Powered	45 lbs	1	1. 3 Reel Equipment, CE-11 (15 lbs). 2. 3 Spools, DR-8, with 3/8 mi WD-1/TT (30 lbs)

SPECIAL

Code	Unit designation	Unit wt	No. pkgs.	Unit data contents
XRAY ALPHA	River Crossing Unit No. 1	50 lbs	1	1. Five life rafts, inflatable, one-person capacity, CO, cylinder and accessory kit. 2. Five life preservers, yoke with gas cylinder. 3. Five paddles, boat, 5 feet long.

REFERENCE:

ST 31-201, Special Forces Operating, Nov 78 (para 8-16)

331-915-0627

DETERMINE UWOA LOGISTICAL SUPPORT REQUIREMENTS

CONDITIONS:

You will be given detachment's mission, area study, intelligence reports, approximate size of the guerrilla force, map of the area, pencil, and paper.

STANDARDS:

Determine the logistical support requirements in your area of responsibility.

PERFORMANCE MEASURES:

You must consider--

a. Internal support:

- (1) Food, clothing, and shelter that are available.
- (2) Locally available transportation.
- (3) Care of the sick and wounded and other personal services.
- (4) Arms and military equipment available as a result of successful guerrilla operations.
- (5) Support available from auxiliary units within a guerrilla unit's assigned sector.

b. External support:

- (1) Weapons, ammunition, demolitions, medical supplies, and communication equipment.
- (2) Rations and clothing.

REFERENCE:

ST 31-201, Special Forces Operations, Nov 78 (chap 8)

331-915-0628

PLAN FOR RESUPPLY OPERATIONS

CONDITIONS:

You will be given detachment's mission, map of the UWOA, area study, protractor, pencil, and paper.

STANDARDS:

Based on the detachment's mission, determine automatic and emergency resupply requirements.

Determine location of delivery sites.

PERFORMANCE MEASURES:

1. Automatic Resupply Operations.

a. Automatic resupply is planned to replace lost or damaged items of equipment and to augment the detachment with equipment which could not be carried in an infiltration.

b. The team packs the automatic resupply with the items it deems necessary.

c. Automatic resupply is scheduled for delivery shortly after the detachment has been committed. It is prearranged as to time, delivery site, and composition of load.

d. This resupply is delivered automatically unless the detachment cancels or modifies the original plan.

2. Emergency Resupply Operations.

a. Prior to infiltration:

(1) Emergency resupply procedure and delivery site are determined and coordinated through the SFOB with the supporting air arm based on all available intelligence of the area.

(2) The contents of the emergency resupply bundle(s) normally will be communication, survival, and medical equipment to—

(a) Restore the detachment's operational capability.

(b) Provide the detachment with sustenance and medical supplies in the event of injuries and loss of equipment during infiltration.

b. The emergency resupply is flown when the operational detachment has not established contact with the SFOB within a designated period of time after infiltration. Infiltration is considered complete when the initial entry report is made by the detachment.

c. After infiltration:

(1) After the initial entry report is submitted and the operational detachment is established in the operational area, emergency resupply delivery sites are selected and reported to the SFOD.

(a) Emergency resupply is prearranged as to time and composition of load.

(b) The guerrillas should not be told the location of the emergency resupply delivery sites and the contents of the load.

(2) The contents of the load will consist of those items needed to restore the operational capability of the detachment, such as—

(a) Radio equipment as well as electronic homing devices that may assist in establishing exfiltration sites when radio silence is mandatory.

(b) Survival and medical equipment.

(c) Weapons and ammunition so the detachment can—

1. Defend itself pending exfiltration.

2. Provide local resistance forces (if contact is still maintained) with means to continue limited operations.

d. Emergency resupply is started when--

(1) Radio contact has not been established between the deployed Special Forces element and the SFOB/FOB within a set period of time after infiltration.

(2) A predetermined, consecutive number of scheduled radio contacts between the deployed Special Forces element and the SFOB/FOB have not been made.

e. If the SFOD must be moving all the time, emergency delivery sites should be selected and reported. If a set number of radio contacts are missed, resupply is made to the last reported delivery site.

f. In receiving the emergency resupply, the SFOD will follow the procedures used for an unmarked delivery site.

REFERENCE:

ST 31-201, Speical Forces Operations, Nov 78 (chap 8)

331-915-0629

TAKE A SET OF FINGERPRINTS

CONDITIONS:

You will be given an individual to fingerprint, a substance to take the fingerprints, a fingerprint record card, and a magnifier.

STANDARDS:

Fingerprints will be clear enough to be classified.

PERFORMANCE MEASURES:

1. The equipment needed for taking and interpreting fingerprint impressions is simple and inexpensive. It consists of a substance, a smooth surface, a magnifier, and a fine line. Standard items of equipment may not be available, and you may have to improvise from locally available material.

a. The substance used to obtain fingerprint impressions must spread evenly on the fingers and allow for the transfer to the interpreting surface. The standard item is printer's ink, which is a heavy, black paste. Other substances, when applied with care, will also produce acceptable impressions:

(1) Cheap lipstick. The cheaper the lipstick the better since the oils in the cheaper brands mix better with the natural oils of the fingers.

(2) Stamp pad inks with stamp pads. These inks can be used, but stamp pad ink is very light or thin and takes a long time to dry. If possible, use a pad with a silk cloth. The silk cloth is not as likely to cause clotting as cotton cloth, thus allowing a more even flow of ink.

(3) Soot. By holding a piece of glass at an angle over an open flame, you will get a thin film of soot on the glass. Roll the finger in the soot and then on paper. This will produce a usable impression.

(4) Charred wood. Pulverize charred wood and add liquid to make a usable ink. To obtain the best results, the liquid added should have a slightly oily base.

(5) Berry juice. The juice of most berries can be used, but the impressions obtained are normally light.

(6) Shoe polish. Use polish that has a lanolin base and not a wax base. Any substance with a wax base tends to clot, causing smudged or smeared impressions.

b. Use a smooth surface to get the fingerprint impression. The surface may be of any material suitable to accept the inked impression and maintain it until the data has been interpreted. The standard item used is the FBI record card. When using it, be sure to show the correct numbering of the fingers. If FBI record cards are not available, the following items can be used:

(1) Cards, 3x5 or 5x8. Due to their heavy weight, both sides can be used. These cards may also be used for a permanent fingerprint file.

(2) Magazines. A magazine, especially one with a "slick" surface, has an excellent surface for temporary prints. Although not all of the magazine can be used, normally several pages will have large borders that can be used to "print" a few individual prints.

(3) Newspaper. The paper used for newspapers holds ink; therefore, it is not the best type of surface to use. By soaking in water, newspapers can be bleached out and then dried in the sun. This will produce a large amount of usable paper.

(4) Glass. Flat pieces of glass, plastic, or formica may be used, but their hard surfaces make them hard to work with. Care must be taken to avoid smearing the impressions.

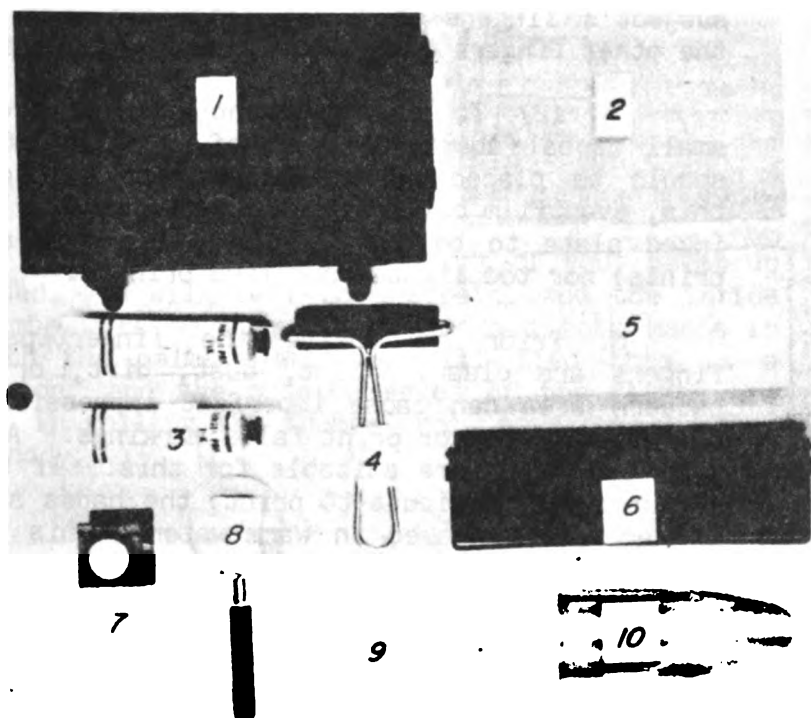
(5) Wood. A flat piece of wood sanded or painted smooth makes an excellent surface. It has the added advantage of being reusable simply by being cleaned, sanded, or repainted.

c. Because of the amount of detail in a fingerprint impression, a magnifier will normally be needed to interpret the data. Any simple two-power magnifier, such as a reading glass or pocket magnifier, will suffice. Some optical equipment lens will also serve as a magnifier. Regardless of the type of magnifier used, it should be mounted on some type of stand so that the analyst can have both hands free when working with the impressions.

d. The final item needed is a fine line. It is used to limit the area of interest in interpretation of the fingerprint impressions. The fine line is used to connect the "focal points" of the impression. It must be long enough to connect the focal points and be no wider than any ridge line. The sighting wire of a lensatic compass or any other fine wire may be used as a fine line. Where records will be continually used for reference, it is often preferred to draw the fine line permanently on the impression with a hard lead (3H or harder) pencil.

e. The following figure shows a typical fingerprint kit. The kit includes:

- (1) Carrying case.
- (2) 5x8 cards.
- (3) Fingerprint ink.
- (4) Roller (used with fingerprint ink).
- (5) Inking plate (used with fingerprint ink).
- (6) Card holder.
- (7) Magnifier.
- (8) Reading glass (used as magnifier).
- (9) Template.
- (10) Curved spatula (used for deformed fingers).



Typical fingerprint
identification system (FIS) kit.

2. To get the best possible results, you should apply certain techniques.

a. The first step is to insure that all the necessary equipment is available, clean, and in working order.

b. The next step is to select an area to take the impressions. A private area is preferred. It must also have a sufficient source of light.

c. Next, organize the printing area. This entails arranging the working surface and "inking" the printing plate.

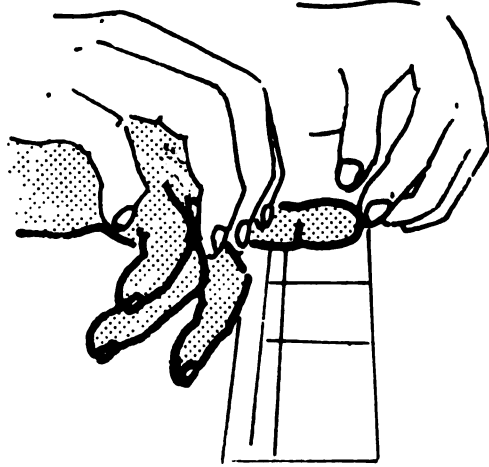
(1) Preferably, the working surface should be arranged so that the subject who is having his fingerprints taken stands in front of and at forearm's length from the surface. The height of the surface should be even with the subject's elbow when his arm is hanging naturally from his shoulder (when the arm is bent to a right angle, the forearm will be even with the surface). The card and inking plate should be mounted at the edge of the surface so that the subject's fingers will not interfere with the manipulation of the other fingers during the printing process.

(2) To ink the printing plate properly, two or three small daubs (about the size of a matchhead) of printer's ink should be placed on the plate and thoroughly rolled until a thin, even film covers the entire surface. You should check the inked plate to be sure the film is neither too heavy (smudged prints) nor too light (undefined prints).

d. Prior to inking the fingertips, insure that the fingers are clear. Lint, dust, dirt, or gummed ink in the pattern area can cause imperfect impressions, void identifying characteristics, or print false markings. Alcohol, gasoline, or soap and water are suitable for this. If the skin is rough or callused and difficult to print, the hands should be washed and, if necessary, soaked in warm water. This will soften the skin and bring out the ridges. After soaking, thoroughly dry the hands. Moisture on the hands will blur the prints.

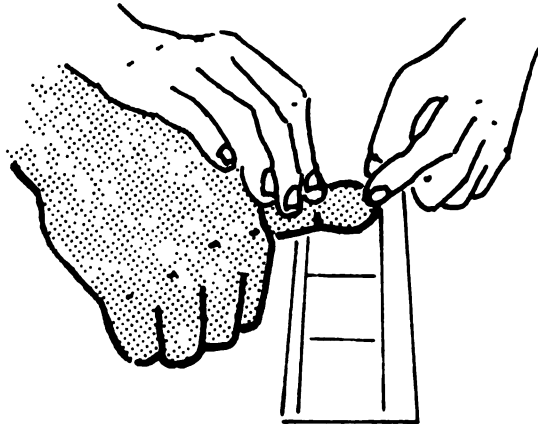
e. For proper and accurate analysis, insure that all critical areas of the fingerprints are imprinted. This requires that the fingers be inked properly and "rolled" rather than "pressed" to obtain the impressions. In taking rolled impressions, the bulb of the finger is placed at right angles to the surface and then turned or rolled until the bulb faces in the opposite direction. To obtain uniform impressions, take advantage of the natural finger movement; turning the finger should always be from the awkward to the easy position. This relieves strain and leaves the fingers relaxed so that on the completion of the rolling, they may be lifted easily from the surface without slipping. Slipping causes the prints to smudge and blur.

(1) If you hold your arms in front of you with the backs of your hands touching each other, your hands feel strained and awkward. If you turn your hands over so they are palm to palm, they are in a comfortable position. When taking fingerprints, the fingers are rolled by starting in the awkward position and ending with them in the comfortable position; that is, they are rolled away from the center of the subject's body.



Starting the roll of the right index finger.

(2) If you hold both hands in front of you, palms up and thumbs extended, you will feel some strain, and the inside edges of the thumbs will be down. If you hold both hands in front of you with the palms down, you will find this is a comfortable position, and the outside edges of the thumbs are down. Therefore, in rolling the thumbs, roll toward the center of the subject's body.



Completing the roll of the right thumb.

f. To take a set of fingerprints, be sure that each finger is inked evenly from the tip to below the first joint and from nail edge to nail edge. Ink and print each finger separately; do not ink all fingers at once.

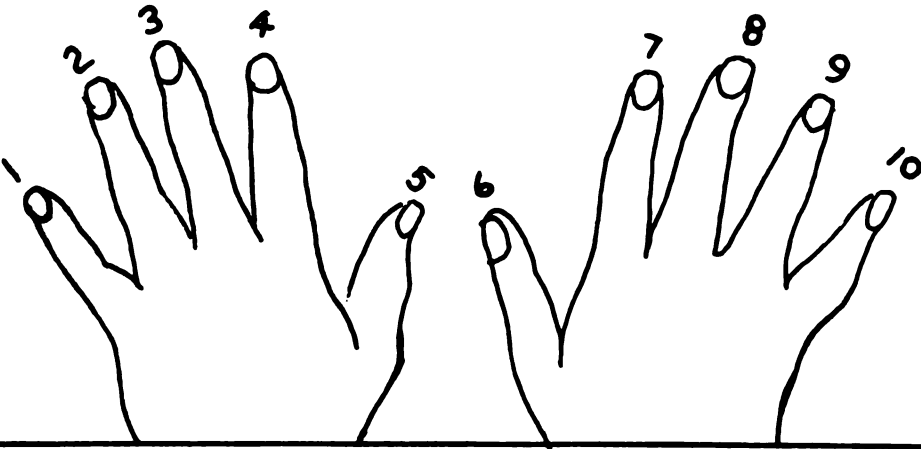
g. In inking and taking rolled impressions, the amount of pressure used is important; this can best be determined through experience and observation. It is quite important, however, that the subject relax and not exert any pressure as this will prevent the operator from gauging the amount of pressure needed. One way to get the subject to relax his hand is to have him look at the opposite wall instead of his hands. It also helps if you can stand between the subject and the working surface.

h. The procedure for inking the fingers is the same as that described for taking the prints. Never roll a finger back and forth on the inking plate to get enough ink. If you do not get enough ink the first time, re-ink on another portion of the inking plate. Never ink a finger at a place on the inking plate where a finger has been previously inked. This will result in uneven inking, causing missed or voided characteristics.

i. A slightly different procedure is used in applying lipstick to the fingers to take a set of impressions. Lipstick is applied directly to the fingers. In order to coat the fingers uniformly, the lipstick is applied in one sweeping motion beginning below the first joint and ending at the tip of the finger. Since more than one motion is normally needed to cover a fingerprint, you must allow for a slight overlap in each subsequent application. Never use a back-and-forth motion as this will fill in the furrows between the ridges, causing smudged and blurred impressions.

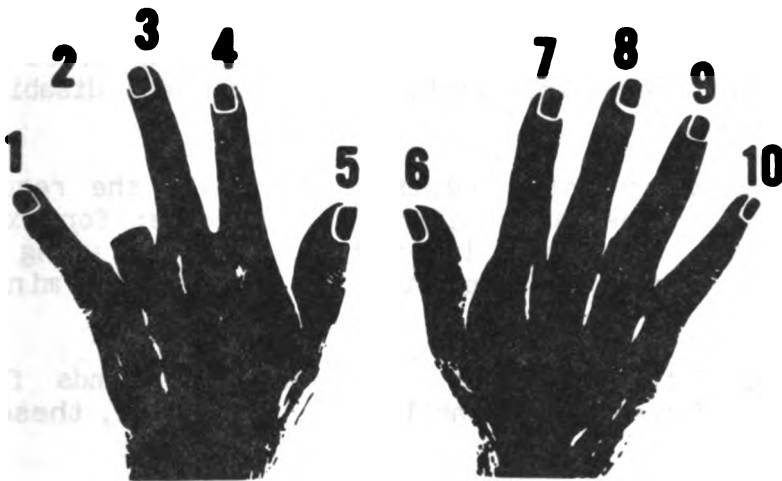
3. The standard method of numbering the fingers in the fingerprint identification system (FIS) permits the data to be transmitted in a message without numbering the data for each finger. It only requires that the data be transmitted in proper order—the data for the first finger appearing first in the message, followed by the data for the second finger, etc. This procedure also insures that operators at various locations will derive the same information from received messages dealing with fingerprint identification.

a. The FIS is devised for 10 fingers. In the FIS, the fingers are always numbered, palms down, starting with the little finger on the left hand as finger number 1 and proceeding across the back of the hands; each finger in its order to the little finger on the right hand is numbered (see figure on following page). Therefore, in the standard method of numbering, the fingers of the left hand will always be numbered 1 through 5, and the fingers of the right hand will always be numbered 6 through 10.



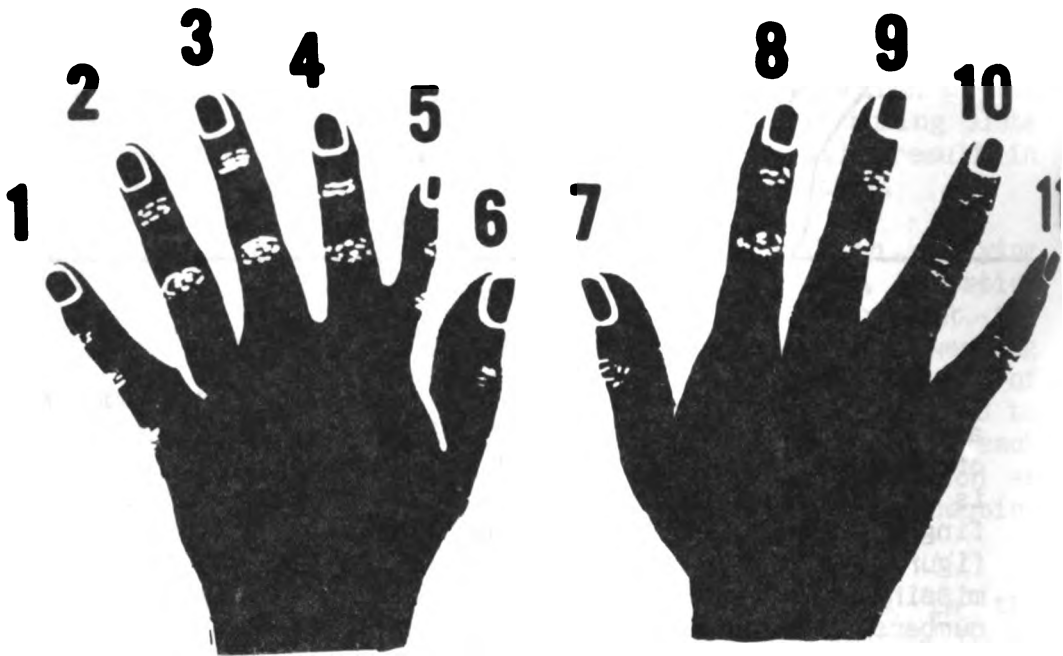
Standard numbering of the fingers.

b. When a finger or fingers are missing, the numbers stay as if all fingers were present. For example, if the ring finger of the left hand is missing, the little finger on the left hand is still number 1, the missing finger is number 2, the middle finger on the left hand is still number 3, and so forth (see figure below). The same would be true if the left hand were missing. The missing fingers of the left hand would still be numbers 1 through 5, and right hand fingers would still be numbers 6 through 10 beginning with the thumb and ending with the little finger. The missing fingers would be reported in the fingerprint message.



Numbering when finger is missing.

c. An individual with 11 or more fingers presents a special situation. The first consideration for any additional finger is that it must have an identifiable fingerprint; then it will be given the number in the sequence where it appears, using the rule counting from left to right, palms down. If the additional finger does not have an identifiable fingerprint, it is not included in the finger count. All additional fingers, regardless of whether or not an identifiable fingerprint exists, should be reported in the FIS message.



Numbering of extra fingers.

4. Everyone, from the novice to the expert, will have some difficulty taking and interpreting fingerprint impressions. These difficulties can be placed into four broad categories: mechanical, temporary disabilities, permanent disabilities, and general.

a. Mechanical problems are normally the result of poor equipment or the use of improper techniques; for example, poor ink, dirty equipment, improper rolling, or wrong amounts of pressure. Experience, practice, and care will minimize these problems.

b. Cuts, scratches, blisters, and wounds fall in the category of temporary disabilities. Given time, these problems

will cure themselves. If the time is not readily available, extreme care and patience must be taken to obtain the best possible impressions in spite of the disabilities.

c. Some of the physical disabilities encountered in taking fingerprint impressions are permanent. The system provides for some of these permanent disabilities, such as missing or extra fingers. Other permanent disabilities, such as deformed or mutilated fingers, may require the use of special equipment, such as the curved spatula, or special techniques. In addition, the operator will have to be extra careful to obtain the best possible impressions.

d. The final category--general--deals primarily with operator errors made in the interpretation of the impressions and the transmission of fingerprint data. Misinterpretation of impressions, misuse of the brevity code, incomplete data, or transmission of data in the wrong sequence are examples of these errors. The operator's attention to detail will eliminate most of these problems.

5. For permanent record purposes, the standard method of fingerprinting should be used. Only professional equipment (printer's ink, inking plate, and roller) and standard fingerprint cards should be used. A typical FIS record card format is shown in the following figure. Prints should be rolled to insure recording of all the critical print area. In addition, care should be taken to insure that all prints are clear and unsmudged, since the headquarter's set of prints will be used to establish the bona fides of an individual at a time when he will not be available to headquarters.

Name _____		Date of Birth _____		
Nationality/Citizenship _____		Branch of Service _____		
Blood Chit No. _____				
1	2	3	4	5
6	7	8	9	10

REFERENCE:

ST 31-194, Fingerprint Identification System, Mar 78 (chap 2)

331-915-0630

SELECT DROP ZONES

CONDITIONS:

You will be given weather conditions, a map, coordinate scale and protractor, paper, pencil, and mission statement for each type drop zone.

STANDARDS:

Within 1 hour:

1. Plot a primary drop zone on a map and list the considerations used in selection.
2. Plot an alternate drop zone on a map and list the considerations used in selection.
3. Plot an area drop zone on a map and list the considerations used in selection.

PERFORMANCE MEASURES:

1. Considerations for Selecting DZs.

a. Terrain. The general area surrounding the site should be relatively free from obstacles which may interfere with safe flight. Flat or rolling terrain is desirable. In mountainous or hilly terrain, however, broad ridges and level plateaus can be used. Small valleys or pockets completely surrounded by hills are difficult to locate and normally should not be selected.

(1) Approach. It is desirable that the aircraft be able to approach the DZ from any direction and that there be an open approach quadrant of at least 45° to allow the aircrew flexibility to assume the appropriate approach track (fig. 1).

(2) Turning radius. DZs having a single clear line of approach are acceptable, provided there is a level turning radius (2 nautical miles on each side of the site for medium aircraft; 1 nautical mile for STOL aircraft) (fig. 2).

NOTE: A nautical mile is approximately 15 percent more than a statute mile.

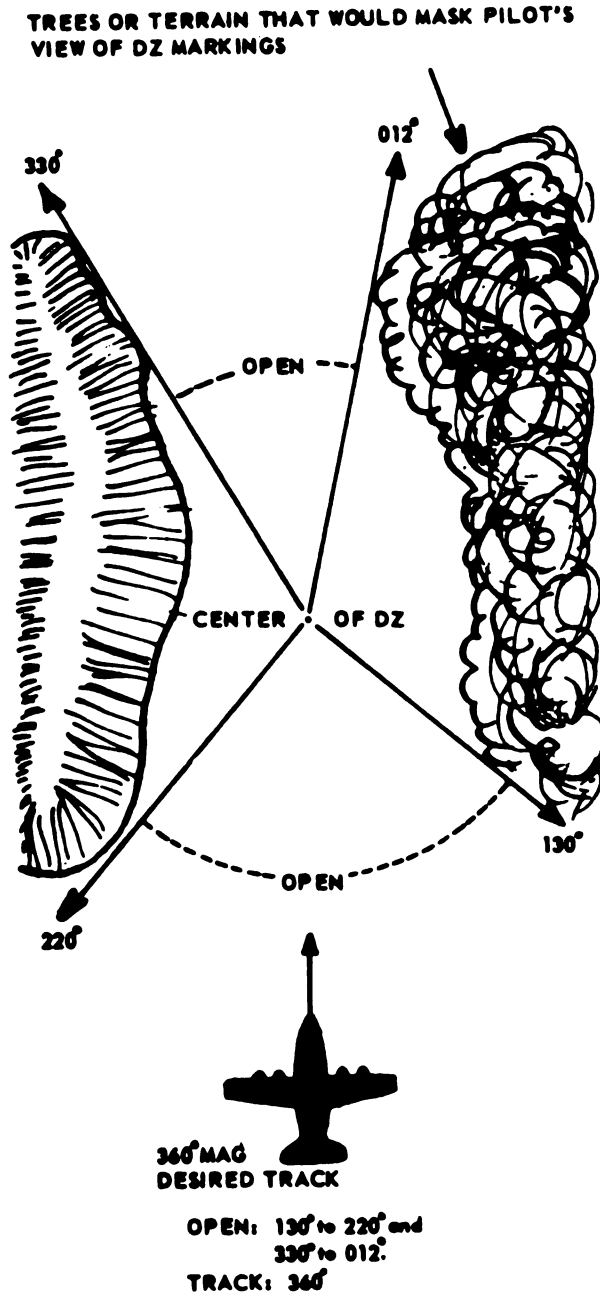


Figure 1. Computation of open quadrant and aircraft track (desired heading).

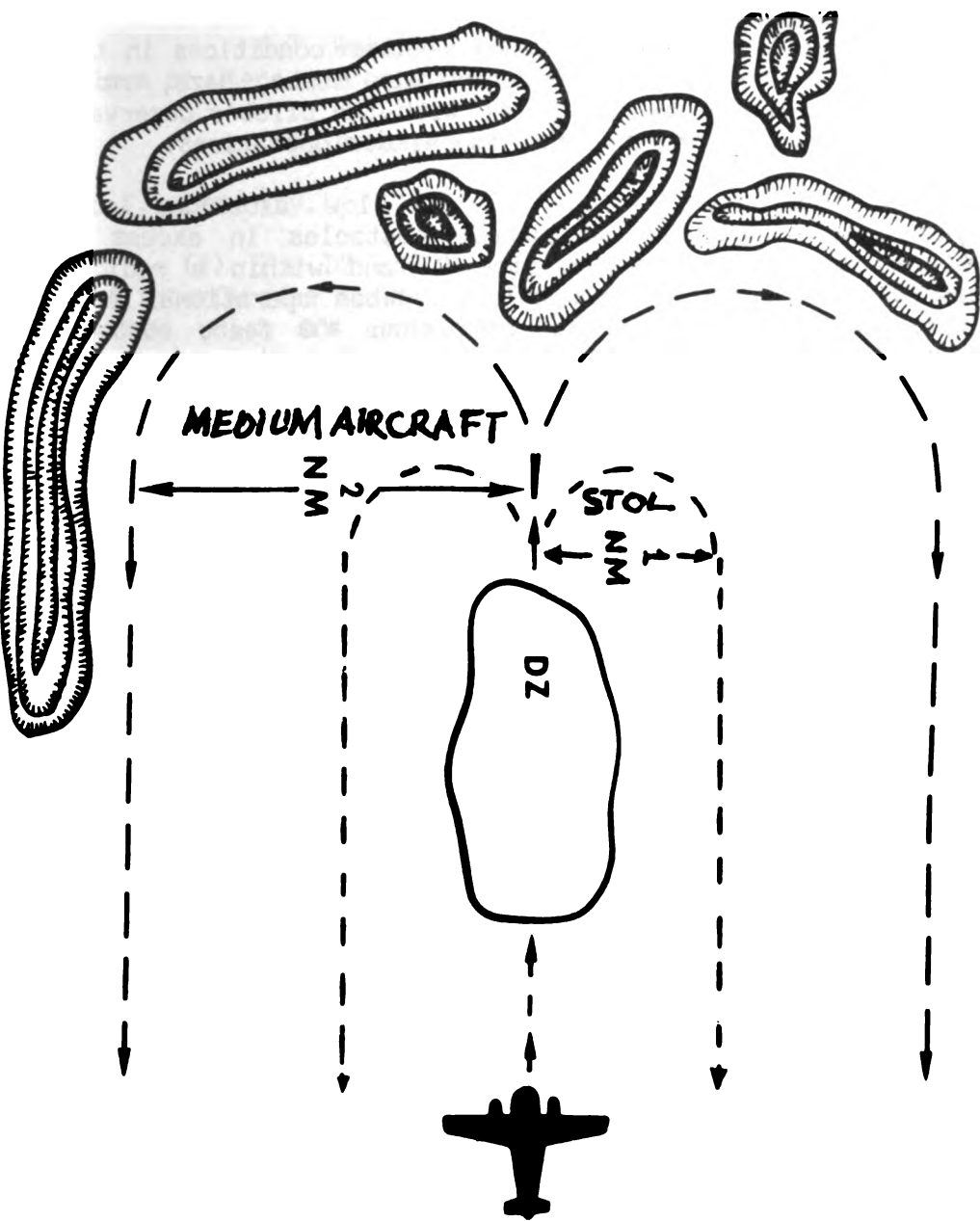


Figure 2. Level turning radius required for one-approach DZ's.

(3) Hills. Rising ground or hills of more than 1,000 feet/300 meters should normally be no closer than 2 nautical miles to the DZ. (In areas where the above criteria cannot be met, the deviation will be noted in the mission request and forwarded by the SFOB/FOB to the air support unit for decision/consideration.)

b. Weather. The seasonal weather conditions in the drop area must be considered. Ground fogs, mists, haze, smoke, and low-hanging clouds may interfere with the pilot's observation of DZ markings. Excessive winds also hinder operations.

c. Obstacles. Due to the low altitudes at which operational drops are conducted, obstacles in excess of 300 meters above the level of the DZ and within a radius of 2 nautical miles must be identified. When operational drops are scheduled for altitudes of less than 400 feet, obstacles in excess of 30 meters must be identified (fig. 3).

d. Shape and size.

(1) The most desirable shapes for DZs are square or round. The width of rectangular-shaped DZs should allow for minor errors in computation of wind drift. Minimum width for personnel drop is 305 meters.

(2) The required length of a DZ depends primarily on the number of chutes to be dropped and the length of their dispersion pattern.

e. Surfaces.

(1) The ground surface of the DZ should be reasonably level and relatively free from obstructions such as rocks, trees, fences, and powerlines. Tundra and pastures are ideal terrain for both personnel and cargo reception.

(2) Personnel DZs located at comparatively high elevations (6,000 feet or higher) will, where possible, be on soft snow or grasslands. The increased rate of parachute descent at these altitudes makes these DZs less desirable than those at or near sea level.

(3) Swamps, paddies, and marshy ground are marginally suitable for personnel and bundles in the wet season. The presence of water compounds recovery problems and is hazardous. Frozen paddies present a rough, hard surface, marginally suitable for personnel drops.

(4) Water depth will be no less than 4 feet for

personnel drop on a water DZ. There will be no underwater obstructions to a depth of 4 feet, and the surface will be clear of floating debris or moored craft without protruding boulders, ledges, or pilings. Minimum safe water temperature for personnel drops is 50° F. (+ 10° C.).

(a) Water reception points will not be near shallows or where currents are swift.

(b) Arrangements must be made for rapid pickup.

f. Security.

(1) The DZ should provide maximum freedom from enemy ground interference and be accessible to the reception committee by routes which are concealed from enemy observation or which can be secured against interdiction or ambush.

(2) Additionally, the DZ should be near areas suitable for the caching of supplies and the disposition of air delivery equipment.

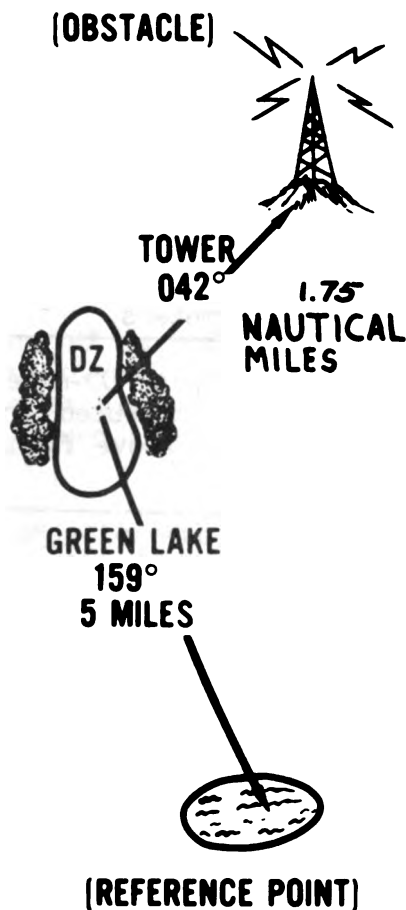


Figure 3. Reporting obstacles and reference points.

2. Dispersion Pattern.

a. Dispersion occurs when two or more personnel or containers are released consecutively from an aircraft in flight. The long axis of the landing pattern generally parallels the direction of flight.

b. Compute dispersion using the formula one-half speed of aircraft (knots) times exit time (seconds) equals dispersion in meters. Exit time is the elapsed time between the exits of the first and last items (fig. 4).

Use this formula: $D = ST$.

D = unknown dispersion pattern in meters.

S = 1/2 speed of aircraft in knots.

T = exit time in seconds. It is calculated by multiplying the number of jumpers/containers to be dropped by 1 second. If two aircraft doors are used simultaneously, divide the calculated exit time by 2.

Example:

$S = 55$ knots.

$T = 7$ seconds. (Twelve jumpers and two cargo containers are to be dropped using two aircraft doors: $12 + 2 \times 1 \text{ second} = 14$ divided by 2 = 7 seconds.)

$D = 55 \times 7 = 385$ meters.

NOTE: For personnel drops, a 100-meter safety factor is added to each end of the computed ground dispersion pattern. Therefore, using the above figures, $D = 385 + 200 = 585$ meters.

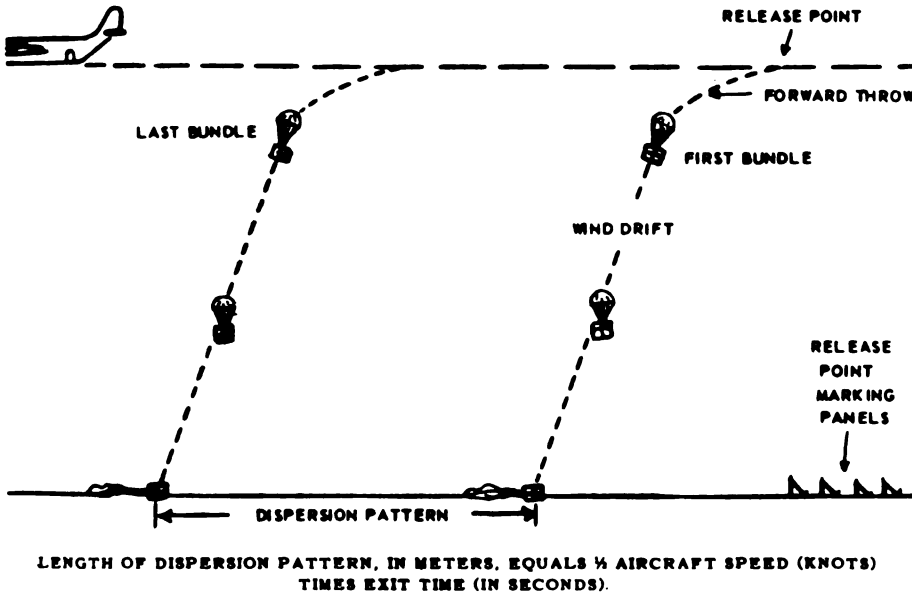


Figure 4. Computation of dispersion.

3. Alternate Drop Zones.

a. Alternate DZs will be designated for every mission requested. They differ from the primary DZ in that separate drop times are established and the alternate DZ is manned by a skeleton reception committee.

b. If the primary DZ is not suitable for reception due to unfavorable conditions, the aircraft proceeds to the alternate DZ. This DZ should be as close to the aircraft primary heading as possible to preclude turn around and possible enemy detection of the operation.

c. Drop times for alternate DZs are determined by the air support unit based on flight time and are included in the mission confirmation message from the SFOB.

4. Area Drop Zone.

a. Selection. An area DZ consists of a prearranged flight tract over a series of acceptable drop sites. This establishes a line of flight between two points, "A" and "B" (fig. 5).

(1) The distance between these points should not exceed 15 miles and should have no major changes in ground

elevation in excess of 300 meters.

(2) Drop sites may be selected not more than one-half nautical mile/1 kilometer to the left or right of the established line of flight.

(3) The aircraft arrives at point "A" at the scheduled time and proceeds toward point "B," observing for the DZ markings. Once the markings are located, the drop is conducted in a normal manner.

b. Identification. Area DZs are identified using the normal DZ procedures, with the following exceptions:

(1) Locations of both point "A" and point "B," including reference points (fig. 5), must be identified.

(2) The open quadrant is not reported.

(3) If you are in a field environment, obstacles over 91 meters above the level of the terrain along the line of flight, within 2 nautical miles on either side, and not shown on the issued map (fig. 6), are identified in reference to either point "A" or point "B."

**NOTE: DROP MAY BE RECEIVED ANYWHERE
ALONG FLIGHT PATH BETWEEN POINTS
"A" AND "B". DISTANCE BETWEEN POINTS
"A" AND "B" NOT TO EXCEED 15 MILES.**

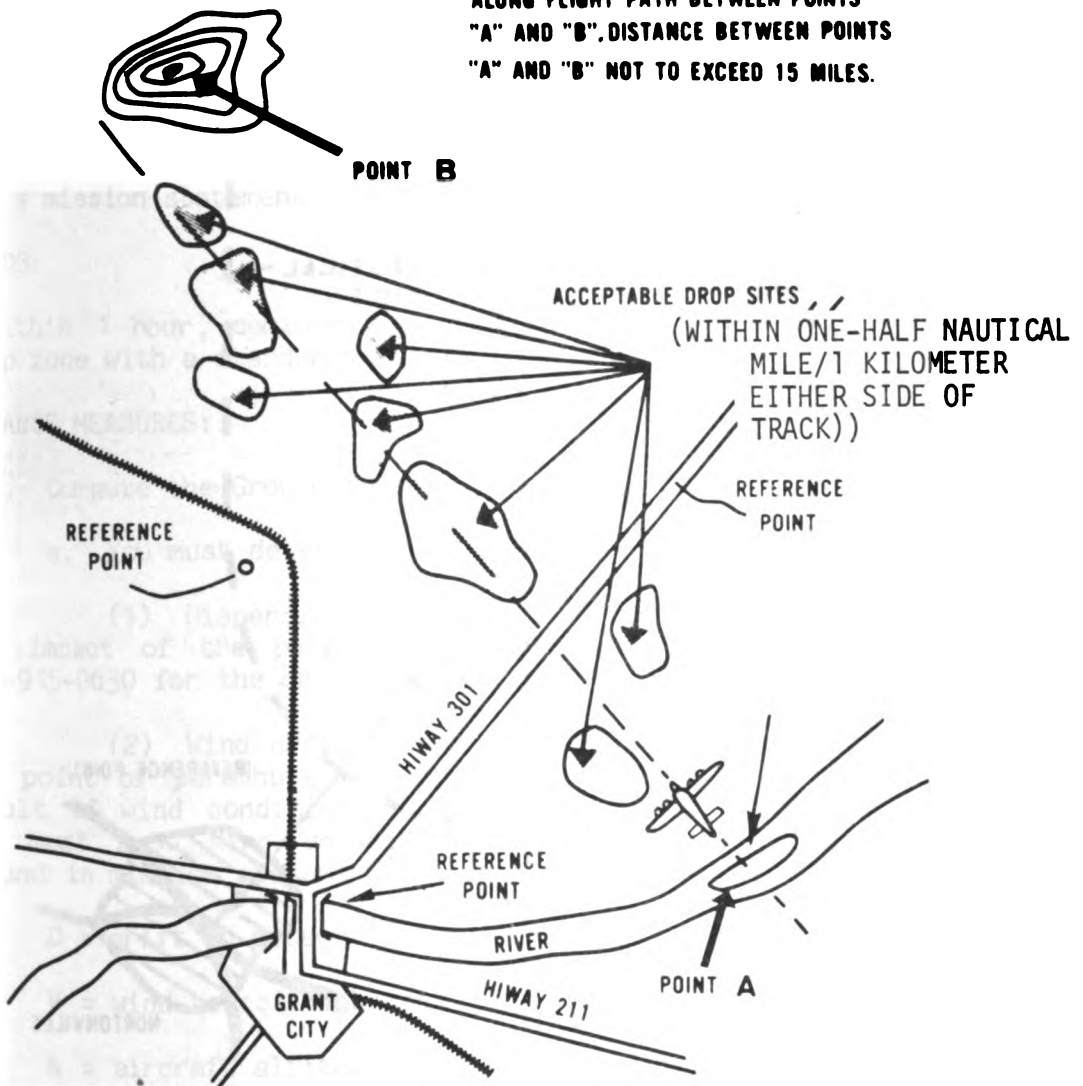


Figure 5. Area DZ (reference points).

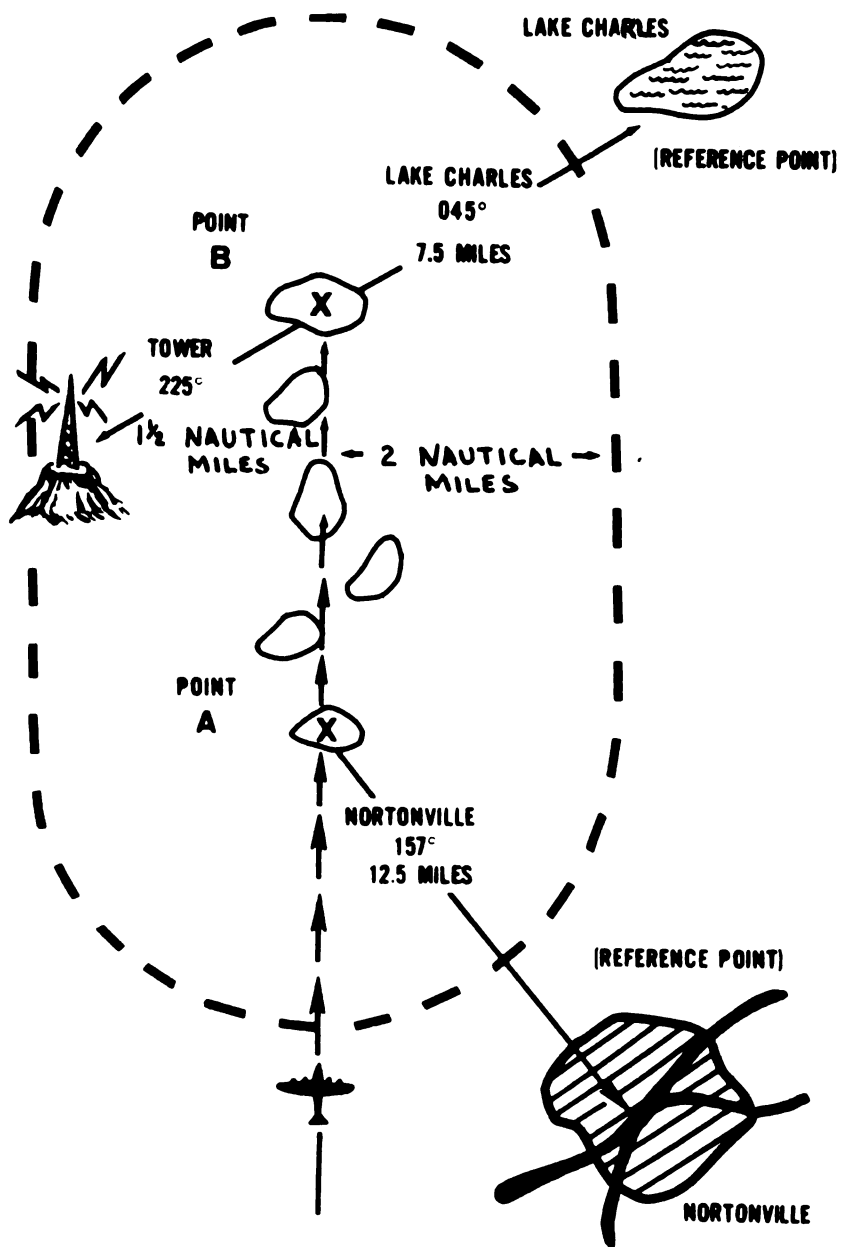


Figure 6. Obstacles and reference points (area DZ).

REFERENCE:

ST 31-201, Special Forces Operations, Nov 78 (sec II and III, chap 6)

331-915-0631

MARK A DROP ZONE FOR A PERSONNEL
OR LOW-VELOCITY CARGO DROP

CONDITIONS:

In a field environment, you will be given marking devices, a compass, an anemometer, personnel to man the markers, unit CEOI, and a mission statement containing all critical information.

STANDARDS:

Within 1 hour, compute the ground release point and mark the drop zone with a standard pattern inverted "L."

PERFORMANCE MEASURES:

1. Compute the Ground Release Point.

a. You must determine:

(1) Dispersion--the length of the pattern formed by the impact of the parachutists/containers. (See task number 331-915-0630 for the calculated dispersion pattern.)

(2) Wind drift--the horizontal distance traveled from the point of parachute deployment to the point of impact as a result of wind conditions. To determine the amount of drift, you must know wind velocity (use anemometer), drop altitude (found in mission statement.) Use the following formula:

D = drift in meters

V = wind velocity (knots)

A = aircraft altitude in hundreds of feet

K = the constant for the type parachute used (see fig. 1)

K Factors

2.6 for cargo parachutes (G-13)

4.0 for static line deployed maneuverable parachutes (MC1/MC1-1)

4.1 for 35-foot canopies (T-10)

NOTE: When receiving jumpers/containers in the same drop, use the K factor for personnel parachutes.

Figure 1

To obtain drift (D), multiply the wind velocity (V) by each 100 feet of drop altitude (A) by the constant for the type parachute (K). Thus, $D = V \times A \times K$.

b. From the calculated dispersion pattern, note the desired point of impact for the first parachutist/container.

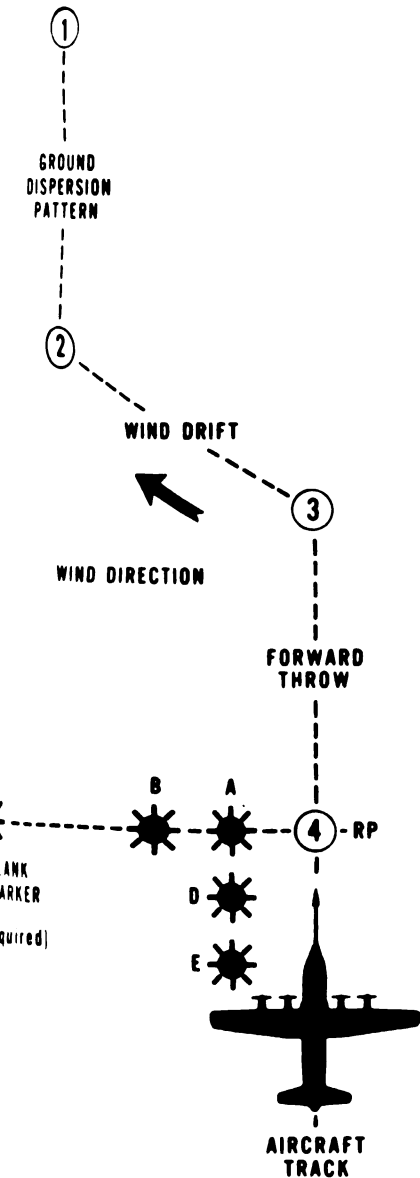
c. Forward throw is the horizontal distance traveled by the parachutist or cargo container between the point of exit and the opening of the parachute. This factor, combined with reaction time of the personnel in the aircraft, is compensated for by moving the release point an additional 185 meters in the direction of the aircraft approach (see fig. 2).

2. Mark the Drop Zone. The purpose of DZ marking is to identify the site, indicate the point over which personnel/cargo will be released, and provide visual terminal guidance for the aircraft. The patterns for marking DZs are included in the CEOI.

a. Types of markers:

(1) During daylight, panels, smoke grenades, or smudge fires may be used. If panels are not available, sheets, strips of colored cloth, or other substitutes can be used provided there is sharp contrast with the background.

(2) During darkness/low visibility, flashlights, fires, or improvised flares may be used.



LEGEND

① Impact point of last jumper/container.

Distance 1 to 2: Computed ground dispersion pattern.

② Desired impact point of first jumper/container.

Distance 2 to 3: Computed wind drift.

Distance 3 to 4: Compensation for forward throw.

④ Location of release point (RP).

TO MARK THE RELEASE POINT

1. After selecting the desired impact point (Point 2), compute the ground dispersion pattern. Starting at Point 1, face into the direction of aircraft approach and pace off the computed distance, Point 1 to 2.

2. At Point 2, face into the wind direction and pace off the computed wind drift distance, Point 2 to 3.

3. At Point 3, face into the direction of aircraft approach and pace off the constant forward throw distance, Point 3 to 4.

4. You are now standing at or under the release point, Point 4.

5. TO POSITION DZ MARKERS: At Point 4, face into the direction of aircraft approach, position marker A 50 meters to your right, and marker B 50 meters to the right of marker A. Position markers D and E at 50-meter intervals forward of marker A into the direction of aircraft approach.

NOTE: PLACEMENT OF MARKERS ARE VIEWED FACING AIRCRAFT APPROACH TRACK.

Figure 2

NOTE: Security must always be considered in selecting the type of marker and in placing it. All flashlights should be hooded for security (side glow) and aimed in the direction of the expected aircraft approach. Fires or improvised flares are screened on three sides or placed in pits with sides showing toward the direction of the aircraft's approach (fig. 3).

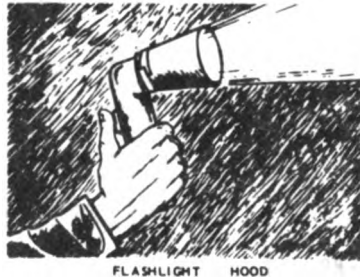


Figure 3. Security of DZ markings.

b. Placement of markers:

(1) The standard marking method employs a standard four-marker pattern positioned in the form of an inverted "L." For night drops, an additional flank marker is used (see fig. 2).

(2) The distance between markers is usually 50 meters.

(3) In executing drops, the aircraft is aligned as accurately as possible 50 meters to the right of the right-hand row of markers. The drop is made when the aircraft becomes adjacent to the last light in the right-hand row.

(4) Markings must be clearly visible to the pilot of

the approaching aircraft. The formula for determining mask clearance is 15 units of horizontal distance to 1 unit of vertical distance (a ratio of 15 to 1 for each unit of obstruction). As an example, markings shown in figure 4 are placed 1,500 feet from a 100-foot mask of vegetation and a terrain feature.

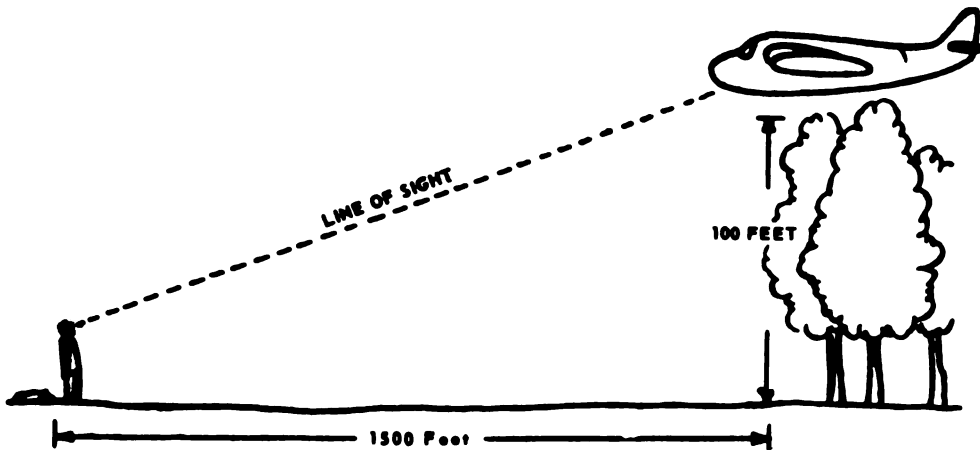


Figure 4. "Mask" clearance ratio 15:1.

(5) When panels are used for daylight DZ marking, they are positioned at an angle of approximately 45° from the horizontal to present the maximum surface toward the approaching aircraft. If the drop is taking place during the period of sunrise or sunset, and the sun is in the eyes of the pilot during the approach to the DZ or LZ, smoke grenades or simple smudge fires should be used in conjunction with panel markings to assist in sighting the DZ markings on the approach.

NOTE: High-velocity and free-drop loads are not materially affected by wind conditions; therefore, wind drift is disregarded. Dispersion is computed the same as for low-velocity drops. Without the restraint of a parachute, forward throw is compensated for by moving the ground release point marking in the direction from which the aircraft will approach a distance equal to the altitude of the aircraft above the ground (e.g., if altitude of aircraft is 600 feet, move ground release marking 600 feet in the direction of the aircraft approach).

REFERENCE:

ST 31-201, Special Forces Operations, Nov 78 (sec IV, chap 6)

331-915-0632

RIG A RUCKSACK FOR JUMPING

CONDITIONS:

You will be given a rucksack, 40 pounds of items to pack in the rucksack, padding, lowering line, H-harness, retainer bands, quick release straps with snaps and masking tape.

STANDARDS:

Within 20 minutes, pack and rig a rucksack for jumping.

PERFORMANCE MEASURES:

1. Pack Rucksack.

- a. Insert items of equipment.
- b. Place padding between load and front of rucksack. (Padding may be a blanket, poncho, or items of clothing.)
- c. Close rucksack and engage and secure all closing straps.
- d. Tape down all loose straps with masking tape.

2. Rig H-Harness (see fig. 1).

- a. Lay out H-harness with intermediate friction adapters facing down.
- b. Place rucksack on H-harness with rucksack back facing up and friction adapters touching the bottom frame of the rucksack.
- c. Place the running ends of the H-harness over the top of the load and underneath the top portion of the rucksack frame.
- d. Cross the running ends of the harness in the middle of the back portion of the rucksack.

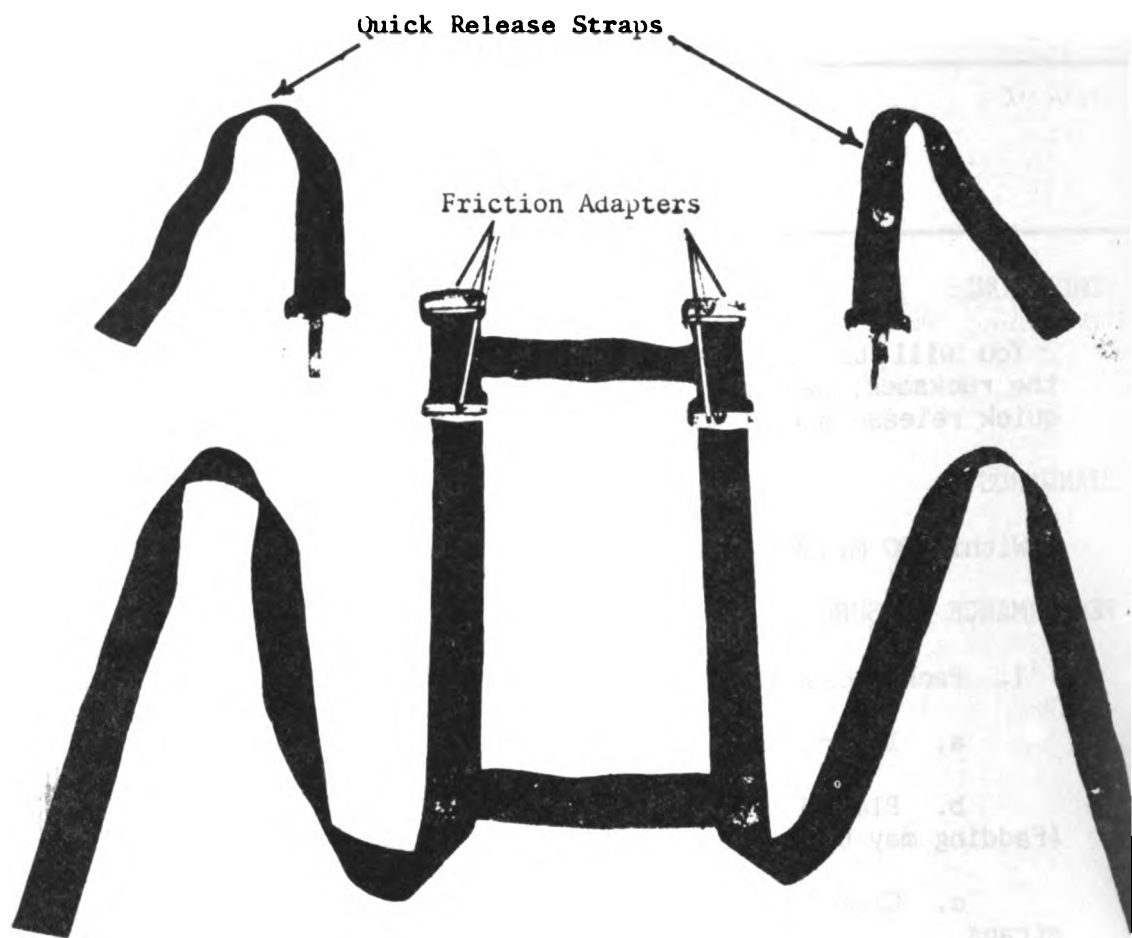


Figure 1. The H-harness.

e. Place the loop(s) of the lowering line around the crossed portion of the harness straps.

f. Thread the running ends of the harness underneath the bottom portion of the rucksack frame.

g. Secure the running ends of the harness to the friction adapters and tighten them.

3. Secure Lowering Line to Rucksack Frame (see figs. 2 and 3 for different type rucksacks).

a. Accordion-fold lowering line with each fold 19 inches long (+ 1 inch).

b. Place retainer bands on the bottom outside of the rucksack frame and tuck the ends of the accordion folds through the retainer bands.

NOTE: Make sure the upper buckle and quick release on the lowering line are free.



Figure 2. Rucksack, cotton, with lowering line attached.

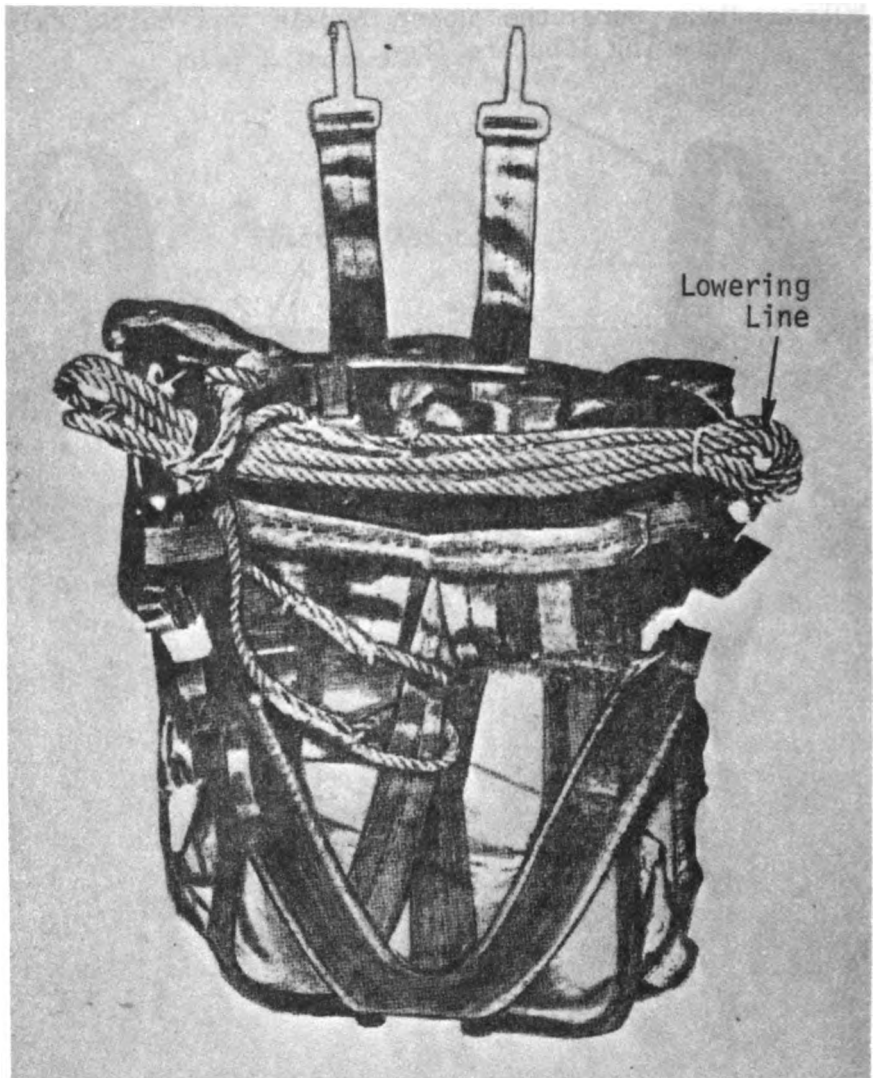


Figure 3. Rucksack, nylon, with lowering line attached.

4. Secure Quick Release Straps to the Rucksack.
 - a. Place rucksack with bottom up and back facing you.
 - b. Secure the quick release straps to the intermediate friction adapters on the H-harness with the open ends of the snaps facing you and the running ends of the straps facing away from you.
 - c. Make quick release folds in both quick release straps.
 - d. Fold and tape the running ends of the H-harness and secure all loose straps IAW paragraph 49, sec II, chap 3, TM 57-220.

- NOTE: (1) The H-harness must not be twisted.
- (2) The H-harness must be threaded under the top and bottom and over the middle of the rucksack frame.
- (3) The lowering line loop(s) must be around the crossing point or "x" in the H-harness.
- (4) The accordion folds of the lowering line must be secured in the retainer bands.
- (5) The H-harness must be secured tightly.

REFERENCE:

TM 57-220, Technical Training of Parachutists, Jun 68 (pages 70-72)

331-919-0002

CONSTRUCT A LEAN-TO

CONDITIONS:

In a field setting, you will be given a poncho or parachute, survival knife, suspension line or similar material, and materials found in the area.

STANDARDS:

Select a site and materials needed.

Construct a lean-to that will provide protection against bad weather.

PERFORMANCE MEASURES:

1. Timber Shelter.

a. Find two trees (on flat ground if possible) slightly farther apart than you are tall.

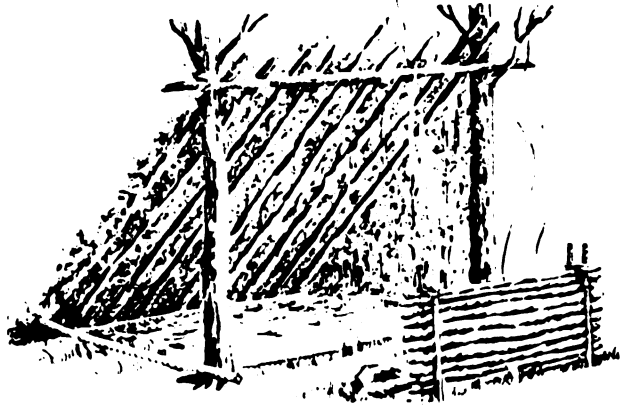
NOTE: In placing the shelter, the direction of prevailing winds should be considered.

b. Cut a limb or find a pole a little longer than the trees are apart.

c. With the limb held horizontal to and 3 to 4 feet above the ground, secure it to the two trees. This can be done with vines or suspension line.

d. Cut some poles 4 to 6 feet long and lean them against the limb you placed horizontally between the two trees. Secure the poles with vines or suspension line.

e. Cut brush or boughs and interlace them on the leaning poles. Secure them.



f. The shelter can be improved by building a fire reflector opposite the opening of the lean-to.

2. Poncho Shelter.

- a. Follow steps "a" through "d" for a timber shelter.
- b. Stretch poncho over the frame and secure it.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 5-4)

331-919-0003

CONSTRUCT A SWAMP BED

CONDITIONS:

In a field setting, you will be given a survival knife, suspension line or similar material, poncho, parachute or similar material, and materials found in the area. (If materials needed for the task are not available in the area, they will be furnished.)

STANDARDS:

Select a site and required materials.

Construct a swamp bed that will support you and your equipment and will provide a dry place to sleep.

PERFORMANCE MEASURES:

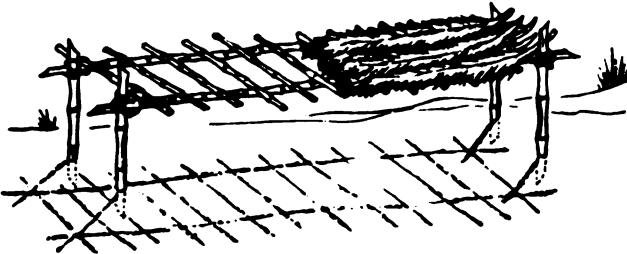
1. Select a site keeping in mind the weather, wind, and tides.

2. Find four trees located so they form a rectangle with the corners far enough apart to allow for your height and breadth. If trees are not available, cut four sturdy stakes and place them into the ground to form a rectangle.

3. Cut two poles long enough for your height and strong enough to support your weight.

4. With the suspension line or similar material, secure the poles to the trees or stakes high enough off the ground or water to allow for tides or inclement weather.

5. Cut other poles and lay them across the two long poles.



FM 31-11B-S

NOTE: If you have an air mattress, blow it up and place it on the platform.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 6-3c)

331-919-0004

IDENTIFY POISONOUS SNAKES

CONDITIONS:

You will be given a container containing five types of snakes, three poisonous and two nonpoisonous, or photographs of three poisonous and two nonpoisonous snakes, and a pointer. This will be done in a field or classroom setting.

NOTE: Container must meet all safety requirements, be large enough to hold a minimum of five snakes, and allow for viewing the snakes; i.e., be covered with wire or glass.

STANDARDS:

Identify the poisonous snakes.

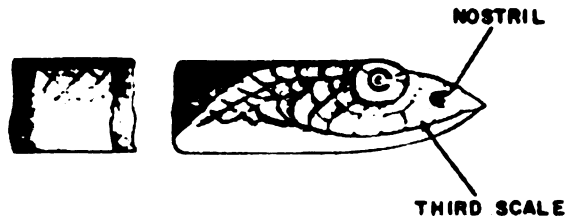
PERFORMANCE MEASURES:

1. No single characteristic except the poison fangs and glands distinguishes a poisonous snake from a harmless one. But only in dead snakes can the fangs and glands be seen without danger. Even then the fangs may be hard to find. Although many poisonous snakes have lance-shaped or triangular heads, many do not.

2. By studying the descriptions and illustrations on the following pages, and dead specimens when available, you can learn to identify the poisonous snakes.

3. Poisonous Snakes of Southeastern Asia.

a. The cobra family (cobra, kraits, and coral snakes). These snakes can be identified positively by examining the scales of a dead specimen. If the third scale on the upper lip touches both the nostril scale and the eye, the snake is one of the cobra family. If there is also a row of enlarged scales down the rigid back, the snake is a krait.



**POSITIVE IDENTIFICATION OF COBRA FAMILY
(COBRAS, KRAITS AND CORAL SNAKES)**

(1) Cobras. Cobras are the most common poisonous snakes in much of Southeastern Asia; they are particularly numerous in India where the natives will not destroy them because of religious beliefs.

(a) Description. Cobras usually (but not always) form a hood when angered. The typical combat attitude of a cobra is the raised head and spread hood. The most common species, the Indian cobra, may grow as long as 6 feet. The "spectacle" mark on the hood is typical of this species; it may be one spot or two without the bridge. The king cobras are the largest of all poisonous snakes; they average 10 to 12 feet long. Some may reach 18 feet. When compared with other cobras, the king cobra's hood is proportionately narrower.

(b) Habits. Cobras are found most frequently in rocky places or in old buildings where they feed on rats. The most common species are not particularly vicious. King cobras, however, may attack deliberately, especially if guarding eggs. Cobras are slow snakes; they always raise the head to strike. The cobra can be killed with a stout stick, swinging the stick in a plane parallel with the ground and hitting the snake at the head or raised part.

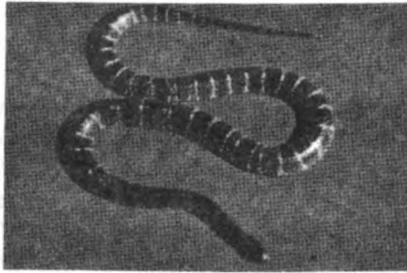
COBRA



(3) Kraits. All kraits are very poisonous.

(a) Description. Most kraits are brightly banded in black and white or black and yellow. They have a rigid backbone on which there is a row of enlarged scales. The head is small and not much larger than the neck. Kraits average 4 to 5 feet long but may reach 6 feet.

(b) Habits. The common krait of India moves around mostly at night. It lives in open country rather than in thick jungle brush and is often found near inhabited places and on trails at night. The banded krait prefers thick jungle. Kraits are not aggressive and normally will not bite unless stepped on. To strike, a krait simply flips its head to one side or the other and bites.

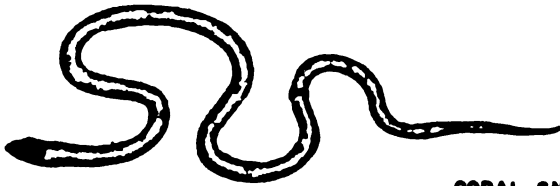


KRAIT

(3) Coral snakes.

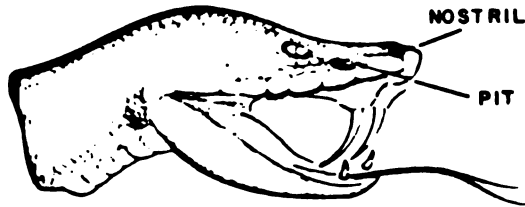
(a) Description. Coral snakes have bright red or pink bellies and brightly colored bands on the back. There are three or four species of coral snakes. They average under 2 feet long, but one species may reach 4 feet.

(b) Habits. Coral snakes are not aggressive; they stay hidden and ordinarily will not bite unless disturbed. They are seldom seen and cause very few fatalities. To bite, a coral snake simply flips its head to one side or the other.



CORAL SNAKE

b. Vipers and pit vipers. These snakes have two long and distinctive fangs; none of the other teeth are comparable in size. The fangs may be covered with a curtain of flesh or folded back into the mouth.

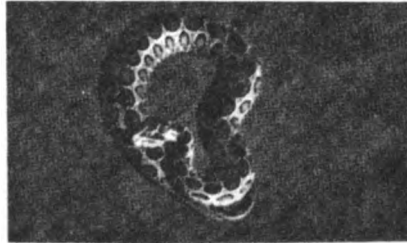


POSITIVE IDENTIFICATION FOR PIT VIPER FAMILY

(1) Vipers.

(a) Description. Vipers usually have heads much wider than the neck. The most common and most dangerous species is Russell's viper. It is thick and will reach a length of 5 feet. It has conspicuous markings on the back, consisting of three rows of spots with reddish or brown centers surrounded by black rings bordered with white. The saw-scales viper is another dangerous species. It is a small snake, about 2 feet long, generally light in color with dark quadrangles. The side scales are rough and somewhat saw-toothed. When disturbed, this snake writhes vigorously and makes a hissing noise.

(b) Habits. Russell's viper prefers open, sunny spots but can be found almost anywhere except in thick jungle. It is not very vicious and will not strike unless it is irritated. The saw-scaled viper is vicious and bites readily; vipers only a foot long have been known to kill. They prefer desert or dry areas and are not found in thick jungle.



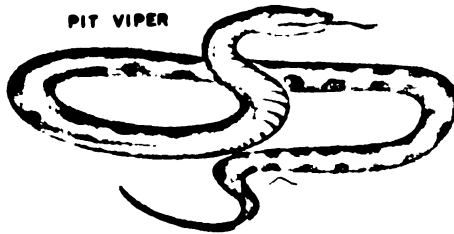
RUSSELL'S VIPER

(2) Pit vipers.

(a) Description. Pit vipers may be slender or thick-bodies. Usually the head is much wider than the neck. These snakes commonly are brown with dark blotches; some types are green. The deep pit located between the eye and nostril gives them their name.

(b) Habits. India has about a dozen species of these snakes. The pit vipers are found in all types of terrain

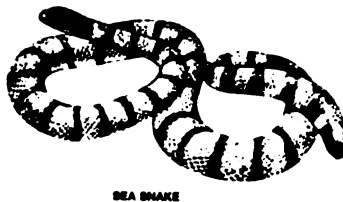
and may be found in trees or on the ground. The tree snakes are slender; the ground snakes are thicker and heavy-bodied. Only the larger ones are dangerous. One of the pit vipers of China is similar to the North American moccasin and is found in the rocky areas of the remote mountains of south China. It reaches a length of 4 1/2 feet but is not vicious unless irritated. A small pit viper, about 1 1/2 feet long, is often found on the plains of eastern China. It is too small to be dangerous to a man wearing shoes.



c. Sea snakes.

(1) Description. Sea snakes have a flattened oar-like tail and scales. The scales distinguish them from eels. Sea snakes vary widely in color and shape. They average 4 to 5 feet in length but sometimes reach a length of 8 to 10 feet.

(2) Habits. Sea snakes are found along the coasts and at the mouths of some of the larger rivers. They may sometimes be seen in large numbers. Their bite is dangerous, but they seldom will bite unless handled. No cases are known of a deliberate attack on a man in the water.



4. Poisonous Snakes of North America.

a. Rattlesnakes. There are about 27 species of rattlesnakes in the United States and Mexico.

(1) Description. The rattle on the end of the tail is the best means of identification. If the rattle is hidden, the thick body and wide head are good identifiers. In color, rattlesnakes vary from gray to black and may or may not have spots or blotches. The rattlesnake, which is related to the pit viper, has a deep pit between the eye and the nostril. It has two long fangs in the upper jaw; none of the other teeth are comparable in size. The two long fangs may be covered with a curtain of flesh or may be folded back in the mouth. Some rattlesnakes are small and their bite is not likely to result in death. Others, such as the diamond-backs, may reach 8 feet and are very dangerous.

(2) Habits. Rattlesnakes may be found in practically any type of terrain, but they prefer open, sandy places or rocky ledges. A rattlesnake does not always give a warning rattle. When surprised, it may strike first and rattle afterward; some do not rattle under any circumstances. Most rattlesnakes will try to escape without a fight.

RATTLE SNAKE



b. Water moccasins (cottonmouths).

(1) Description. The water moccasin has a thick body, and its head is wider than its neck. It is usually dull brown or olive in color and is marked with indistinct bands or blotches; the markings sometimes disappear in the larger snakes. The belly is yellowish, blotched with darker markings. Young moccasins are brilliantly colored. The mouth, when open, is white. The water moccasin averages 3 to 4 feet in length but may reach 6 feet.

(2) Habits. The water moccasin lives in or near water and is a good swimmer. Often it is seen on logs or leaning trees in swamps; it is fond of basking on branches and logs along sluggish streams, bayous, and swamps. The water moccasin will usually retreat when disturbed, but it may stand its ground, holding its mouth wide open in a threatening gesture. Its venom is very poisonous, and the bite of a large snake is often fatal.



c. Copperheads (upland moccasins).

(1) Description. The copperhead is a thick-bodied snake with a head which is wider than its neck. It is usually pale brown in color with a number of darker crossbands narrowing at the midline of the back. The markings may be few and inconspicuous on the larger snakes. The head is usually copper-red in color. The belly generally is light in color and somewhat mottled. The copperhead averages 2 1/2 feet in length, but some may reach 4 1/2 feet.

(2) Habits. In the north, the copperhead usually is found in thick forests. In the south, it may be found on dry ground almost anywhere in the field or woods. It prefers high, dry ground. Copperheads are rather timid; they usually stay hidden and when discovered, try to escape. If cornered, a copperhead may vibrate its tail producing a distinct buzzing sound in vegetation. Bites from copperheads are rare. The venom is weak and not particularly dangerous to adults.

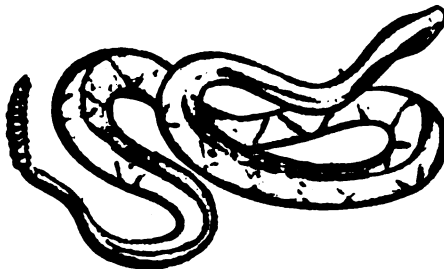


5. Poisonous Snakes of Central and South America.

a. Rattlesnakes. Of the five kinds of rattlesnakes in Central and South America, only the tropical rattlesnake is widespread.

(1) Description. The tropical rattlesnake and its close relatives are large snakes, averaging about 5 feet long. The tropical rattlesnake has a pair of dark stripes extending along the neck and geometrical markings on the body. A smaller rattlesnake, found on Aruba Island, has a pale gray back and a white belly. The rattle on the tip of the tail identifies all the rattlesnakes. Rattlesnakes are related to the pit vipers, having a deep pit between the eye and the nostril and two long fangs in the upper jaw. (See illustration at para 3b.)

(2) Habits. The tropical rattlesnake is a vicious reptile. It is aggressive and may strike with very little warning rattle and before coiling. If teased, it may advance toward the tormentor. It is found only in dry, hilly country, not in thick forests. Its venom is highly poisonous.

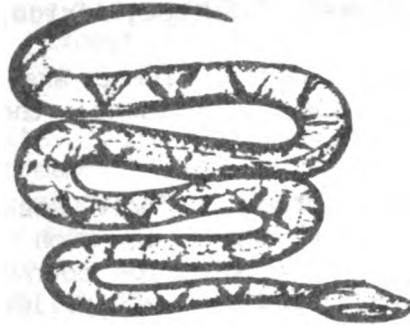


TROPICAL RATTLESNAKE

b. Bushmasters.

(1) Description. The bushmaster is a large snake with a moderately slender body and a head much wider than the neck. It is light brown with a pinkish hue and has a series of dark blotches which are wide on the back and narrow down the sides. The scales are extremely rough and raised like the teeth of a rasp. The bushmaster, which is related to the pit viper, has a deep pit between the eye and the nostril. It has two long fangs in the upper jaw; none of the other teeth are comparable in size. (See illustration at para 3b.) The two long fangs may be covered with a curtain of flesh or may be folded back in the mouth. The bushmaster averages from 7 to 9 feet in length but may reach 11 feet.

(2) Habits. The bushmaster is found mostly in forests at low altitudes. It prefers dry ground and often hides in animal burrows. When lying on the forest floor, it is hard to see because of its coloring. It may remain motionless until touched, or it may attempt to escape. It may strike viciously; sometimes it may even edge towards an intruder. When irritated, the bushmaster vibrates its tail. It is a savage and dangerous snake.

**BUSHMASTER**

c. Fer-de-lance group. This group of snakes is widespread throughout Central and South America.

(1) Description: The fer-de-lance and about six of its relatives are gray to brown or reddish in color, with dark geometrical blotches which generally are narrow on the back and broad at the sides. It is moderately thick with a head which is much wider than the neck. The fer-de-lance averages about 3 to 4 feet in length but may reach 8 or 9 feet. Some members of the group are smaller and display almost any color, including green or yellow; some have thick bodies. The fer-de-lance group is also related to pit vipers, having the deep pit between the eye and the nostril and the two long fangs in the upper jaw with no other teeth of comparable size. (See illustration at para 3b.)

(2) Habits. The large species are ground snakes. Some of the small ones, known as palm vipers, live in trees, especially at the base of the leaves of a palm tree. The larger snakes are dangerous. They may be common in certain areas and are often found in canefields or around dwellings where they catch rats. This snake loops its body before striking.

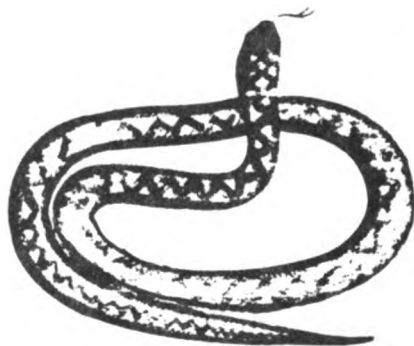
**FER-DE-LANCE GROUP**

6. Poisonous Snakes of Europe, Africa, and the Near East.

a. European vipers. There are eight species of these vipers on the European Continent; they are sometimes called adders or asps.

(1) Description. These snakes have a short, thick body and a wide head which is much broader than the neck. Usually, there is a zigzag stripe down the back. Colors may be gray, olive-brown, reddish, or yellowish. European vipers average 2 to 3 feet in length.

(2) Habits. Vipers are generally found in the wilder areas, particularly on rocky plains, such as in the Pyrenees, the Appenines, and the Balkan Mountains where they may be found at heights up to 5,000 feet. They are found as far north as 67° in Scandinavia and across Siberia. Sunlit slopes, moors and heaths, grainfields, and trash piles are favorite prowling places. Some of the European vipers are aggressive and savage, causing occasional deaths.



EUROPEAN VIPER

b. African vipers.

(1) Description. Except for the puff adder, the vipers of North Africa are similar to those of Europe. The puff adder is a large brownish or sand-colored snake with striking markings, a heavy body, and a very short tail. It grows to length of 5 feet. Central and South Africa have several kinds of vipers. Among the largest are the rhinoceros viper and the gaboon viper. The rhinoceros viper, found in West Africa, has horns on its nose, a very wide head, and a thick body covered with colored marks down the back; it reaches a length of 4 feet. The gaboon viper has one horn on the nose, a wide head, and a thick body with oblong markings on the back and triangular

colored spots on the sides; it has been known to reach a length of 6 feet. There are a number of other African vipers, most of which are small. Except for one, they have a wide head and thick body.

(2) Habits. The puff adder prefers open forest or grasslands near streams. The rhinoceros viper is found in or near streams. The gaboon viper lives in heavy forest. The bite of any of these snakes is extremely dangerous; however, these snakes are not aggressive. The smaller vipers, found in sandy country, open brush, grassland, or light forests, are likely to be aggressive and dangerous. One of the smaller kinds buries itself in the sand and may strike at a passing man; a coiling pattern in the sand will reveal its presence.

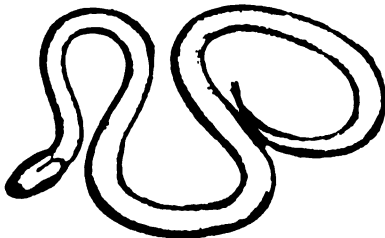


AFRICAN VIPER

c. Mambas. These snakes are found over all of Africa except in the extreme northern portions.

(1) Description. These snakes are very slender and have small heads. They generally have a green or dark, uniform color without conspicuous spots or markings. The scales are smooth, symmetrical, and large. Mambas may reach 12 feet in length. An 8-foot mamba is about half the thickness of an ordinary broomstick. The fangs in an 8-foot mamba are about one-half inch long, the thickness of a pin, and almost covered with flesh.

(2) Habits. Mambas live in trees or on the ground and have been known to enter houses in search of rats. They are very quick snakes. They may attack deliberately during their breeding season, but at other times they are timid and glide away. The bite of the mamba is very dangerous.



MAMBA

7. Poisonous Snakes of Australia, New Guinea, and the Pacific Islands.

a. Death adders. These snakes are found in most of Australia, except Victoria, in southern New Guinea, and in the Moluccas.

(1) Description. The death adder has a short, thick, clumsy body; a head much wider than the neck; and a short, thin tail. It seldom reaches more than 2 feet in length. It may be gray, brown, pink, or brick-red, depending on the sandstone of the region in which it lives and in which its coloring blends. There are bands of darker color across the body, particularly in the young snakes. The death adder has rough scales and has a spine on the tail.

(2) Habits. This snake is found in sandy areas. Since it blends with the ground it inhabits, it is hard to see. Although the snake is not quick to strike, it can be dangerous if irritated or stepped on. Its venom is highly poisonous.

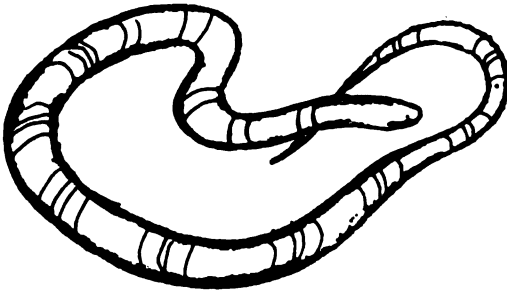


DEATH ADDER

b. Tiger snakes. These snakes range throughout Australia and Tasmania.

(1) Description. The tiger snake has dark bands on a tawny background of green, gray, orange, or brown; sometimes the bands are indistinct. It has a stout body with a rather wide head. When angry, it spreads its neck. It averages 4 to 5 feet long but may reach 6 feet.

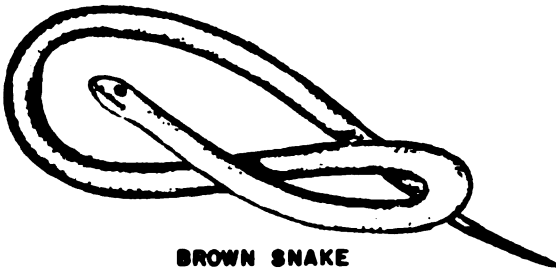
(2) Habits. The tiger snake lives in dry country. It is a savage and dangerous reptile. In Australia, more deaths are caused by this snake than by all other snakes combined. Tiger snakes are quick to bite, spreading the neck and lunging with a flashing stroke that is so vigorous it sometimes moves the snake's body forward so that the snake seems to be making a short jump.

**TIGER SNAKE**

c. Brown snakes. These snakes are found throughout Australia and in New Guinea.

(1) Description. The brown snake is slender with a small, narrow head. Its eyes are large. Its color is light yellow to brown or gray above and white underneath; the young are pale brown and have a pretty ringed pattern. In spite of the small size of its head, its venom is highly poisonous. This snake usually reaches a length of 4 to 5 feet.

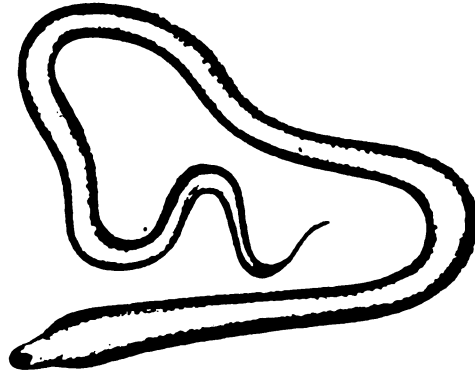
(2) Habits. The brown snake is not aggressive unless it is disturbed. It strikes from a looped position.

**BROWN SNAKE**

d. Black snakes. These snakes are found throughout Australia except in the north and in Tasmania.

(1) Description. The black snake is blue-black on top and brilliant scarlet underneath, edged with black. The scales are symmetrical and satin-smooth. This snake has a slender body and a small, narrow head. When alarmed, it spreads its neck. It averages 6 to 7 feet in length.

(2) Habits. The black snake prefers marshy places or streams; it dives and swims well and can stay under water for long periods of time, often lying still on the bottom of a stream. It will not attack unless stepped on or cornered. When angry, it raises its head a few inches off the ground at a slant and strikes from that position. Its venom is relatively weak.



BLACK SNAKE

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 2-19 and app C)

331-919-0005

IDENTIFY POISONOUS PLANTS

CONDITIONS:

You will be given specimens of five varieties of plants (three poisonous and two nonpoisonous) or a chart displaying photographs of three poisonous and two nonpoisonous plants, and a pointer.

STANDARDS:

Identify the poisonous plants.

PERFORMANCE MEASURES:

1. There are two types of poisonous plants. One type poisons on contact. The other poisons if eaten.

a. Plants poisonous on contact:

(1) In the United States the three most common poisonous plants are poison ivy, poison oak, and poison sumac. All have small, round, grayish-green or white fruit.

(a) Poison ivy (fig. 1) is a creeping vine with leaves growing in clusters of three. Sometimes the leaves are saw-toothed on the sides.

(b) Poison oak (fig. 1) is a shrub with leaves also growing in clusters of three, but the sides of the leaves are usually more distinctly saw-toothed than leaves of poison ivy.

(c) Poison sumac (fig. 1) is a shrub or small tree which grows in swampy places. It has smooth-edged leaflets on red stems.

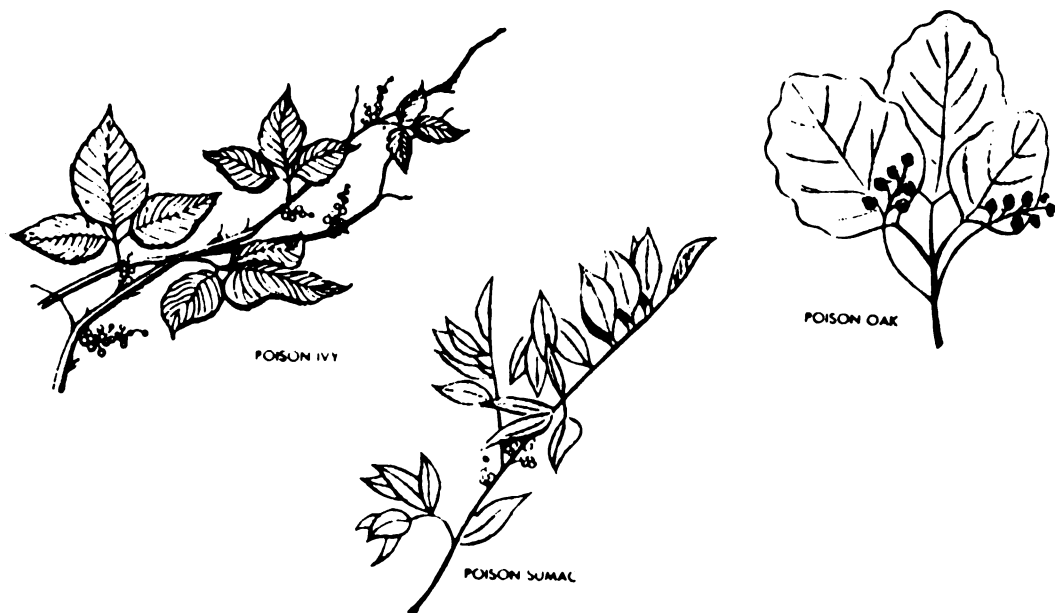


Figure 1. Plants poisonous on contact.

(2) In tropical regions many trees and shrubs, which belong to the same family as poison ivy and poison oak, poison on contact. The poison usually seeps from the bark and often looks like streaks of black ooze on the trunk.

(3) In the moist tropics of Southeast Asia, the leaves of the cashew nut are poisonous to some people.

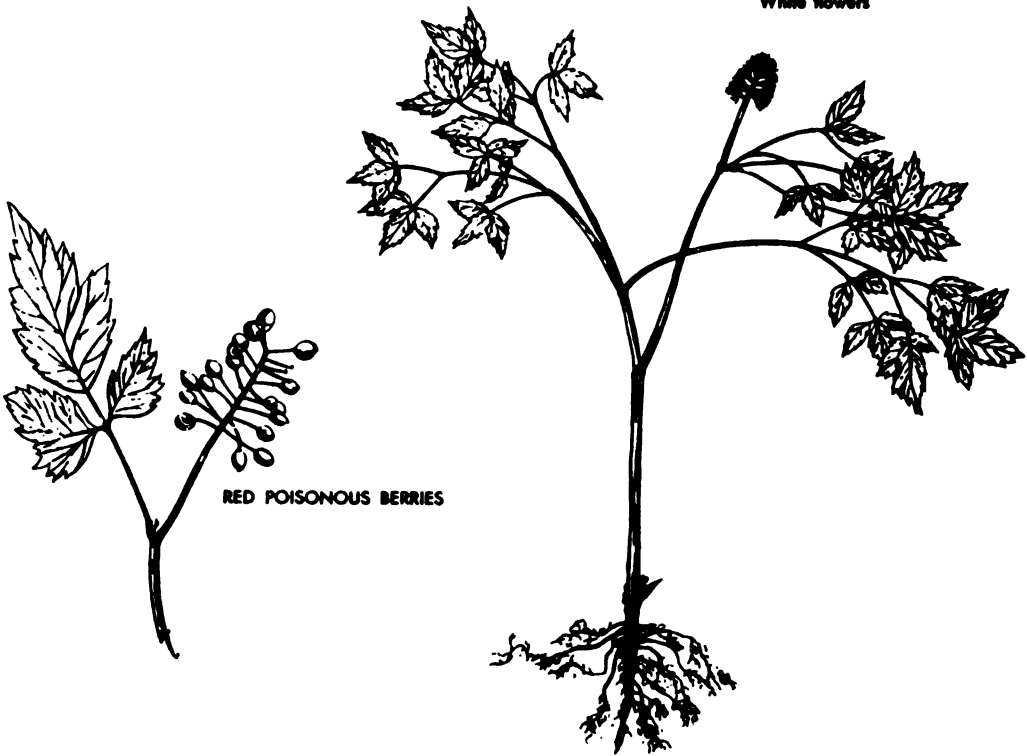
(4) In the arctic and subarctic regions, no plants are poisonous on contact.

b. Plants poisonous if eaten:

(1) Baneberry:

2-3½' Tall

White flowers



RED POISONOUS BERRIES

ROOTSTALK IS A VIOLENT
PURGATIVE AND EMETIC

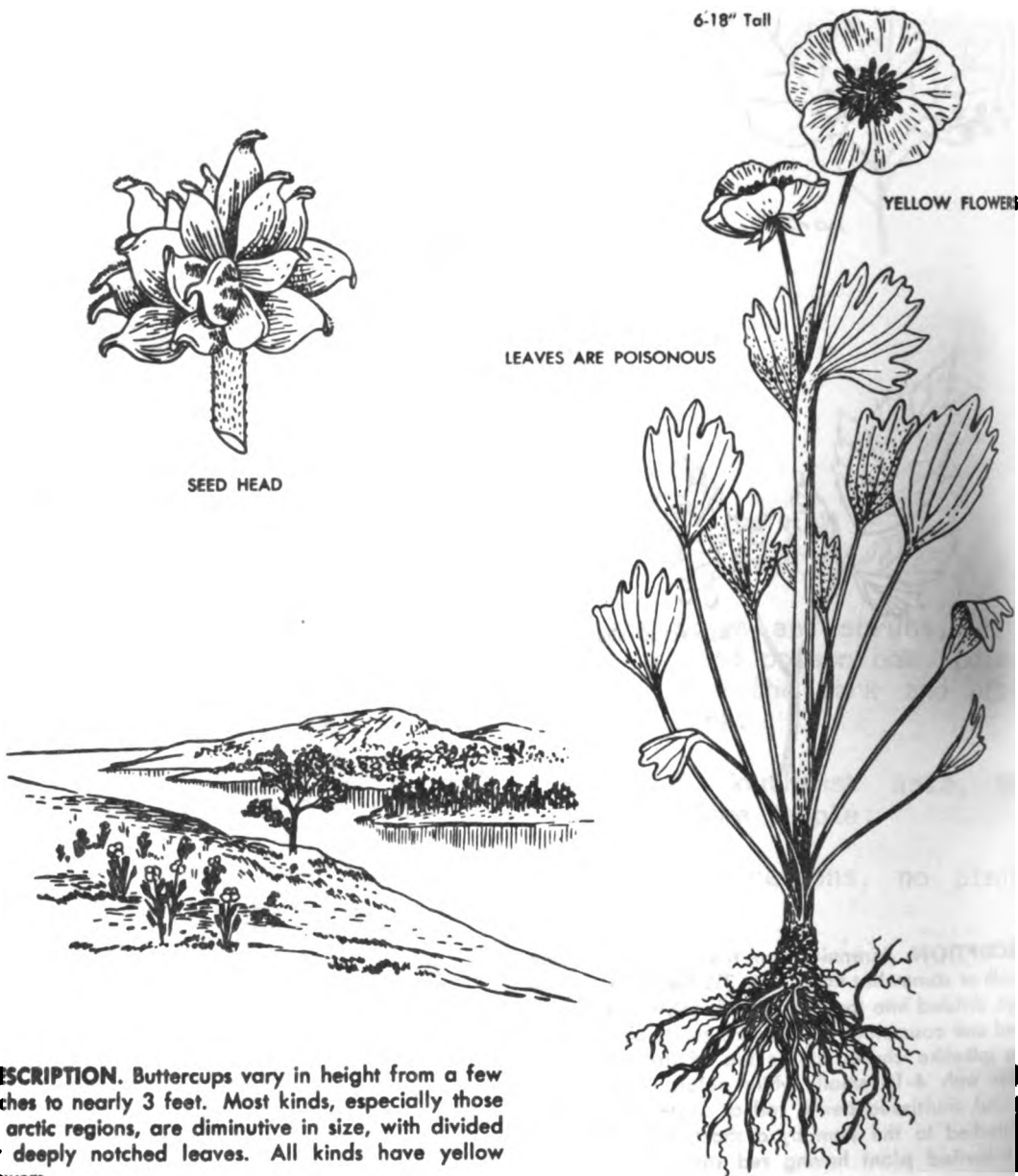
DESCRIPTION. Perennial from thick rootstalk. Stems smooth or somewhat hairy, 2 to 3½ feet high. Leaves large, divided into three leaflets. Leaflets thin, usually lobed and coursetoothed. Flowers small, white, many in a spikelike cluster at the top of the stem, each flower with 4-10 small, white petals. The fruit is round, multiseed berry, red or white. Each berry attached to the stem by a short, thick stalk, the white-berried plant having red stalks.

WHERE FOUND. Woods and thickets. This is a typical plant of the North Temperate Zone, especially from about latitude 40° N. to the arctic and subarctic areas of Europe, Asia, and North America.

CONDITIONS OF POISONING. The **BERRIES** of this plant are poisonous. As few as six berries can cause increased pulse, dizziness, burning in the stomach, and colicky pains. The **ROOTSTALK** is a violent purgative and emetic.

Figure 2. Baneberry.

(2) Buttercup:



DESCRIPTION. Buttercups vary in height from a few inches to nearly 3 feet. Most kinds, especially those in arctic regions, are diminutive in size, with divided or deeply notched leaves. All kinds have yellow flowers.

WHERE FOUND. Widely distributed throughout the North Temperate Zone and well into the tundra of Europe, Asia, and America.

CONDITIONS OF POISONING. If the LEAVES eaten, severe inflammation of the intestinal may result.

Figure 3. Buttercup.

(3) Death camas:

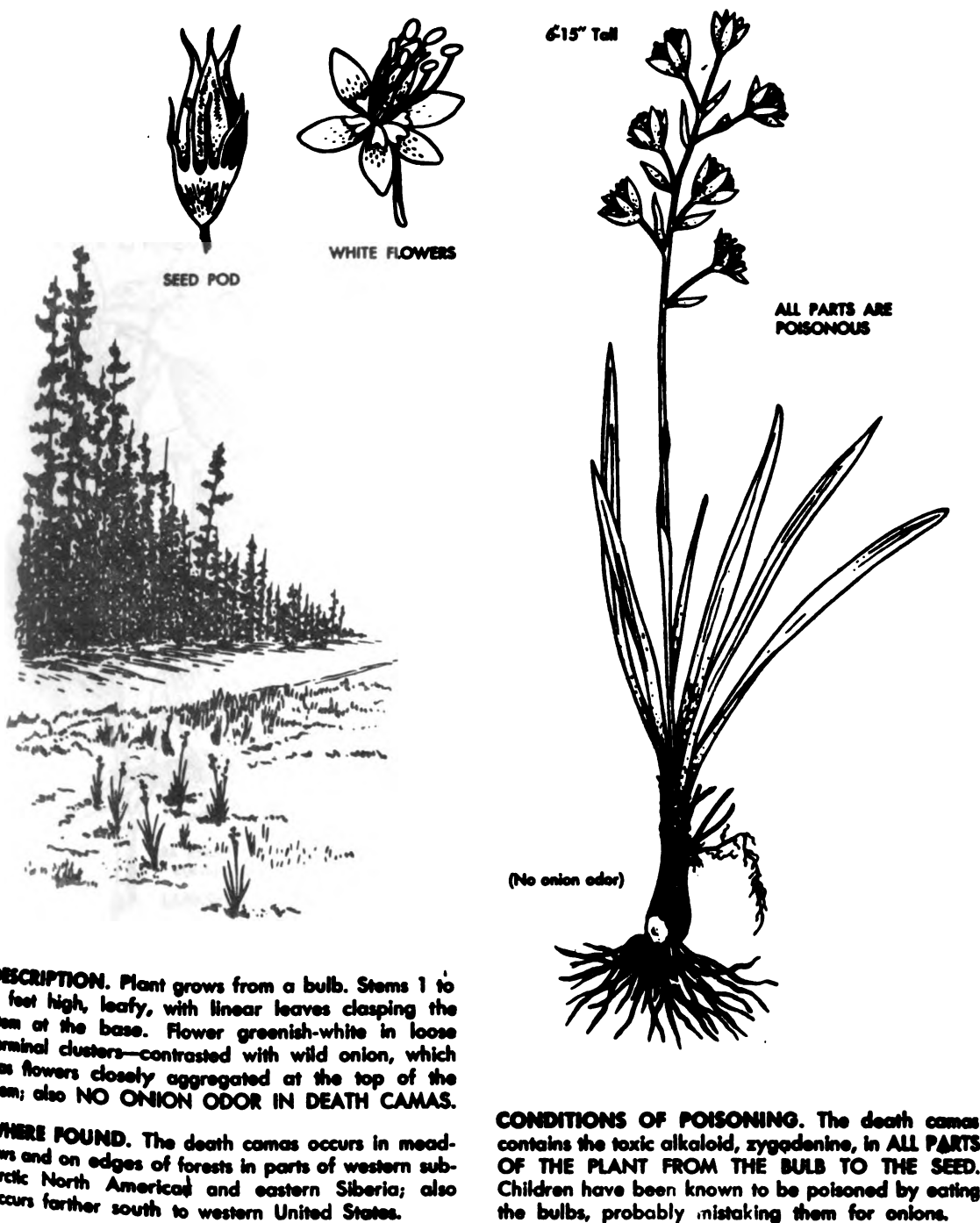
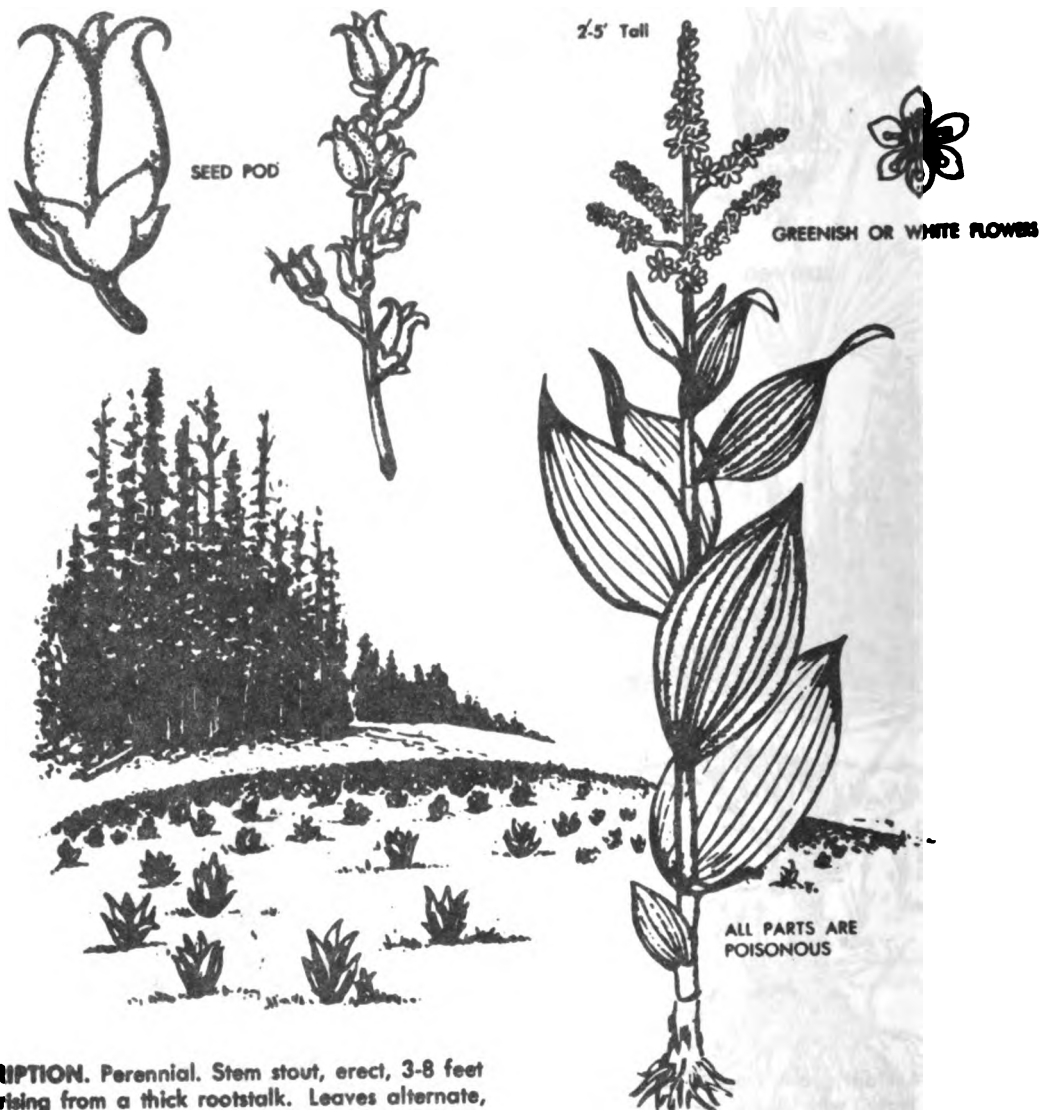


Figure 4. Death Camas.

(4) False hellebore:



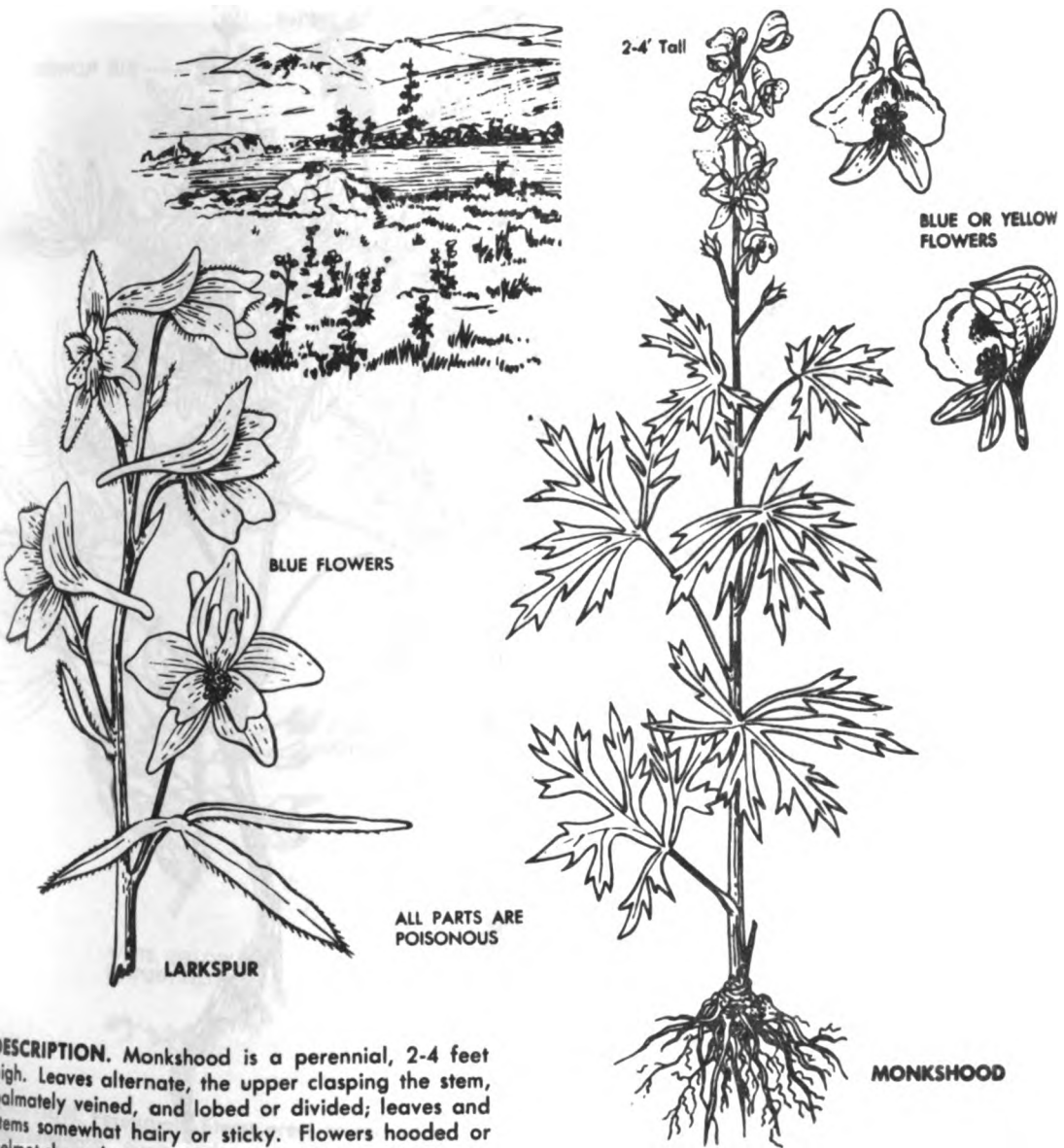
DESCRIPTION. Perennial. Stem stout, erect, 3-8 feet high, rising from a thick rootstalk. Leaves alternate, broadly round-oval with pointed tip, clasping the stem; blade smooth above, hairy beneath; veins parallel. Small flowers in large terminal spikelike clusters with drooping branches; three petals, often greenish, but sometimes white.

WHERE FOUND. Swamps and low grounds in Europe, Asia, and America from about 40° N. latitude. Occurs on the edge of the arctic, although probably rare on the tundra.

CONDITIONS OF POISONING. Fatalities among humans from EATING FALSE HELLEBORE are rare but are more common to sheep and other animals. Symptoms are salivation, vomiting, purging, abdominal pain, muscular weakness, general paralysis, tremors, spasms, and occasionally convulsions. Death results from asphyxia.

Figure 5. False hellebore.

(5) Larkspur (delphinium) and monkshood:



DESCRIPTION. Monkshood is a perennial, 2-4 feet high. Leaves alternate, the upper clasping the stem, palmately veined, and lobed or divided; leaves and stems somewhat hairy or sticky. Flowers hooded or salver-shaped, usually blue.

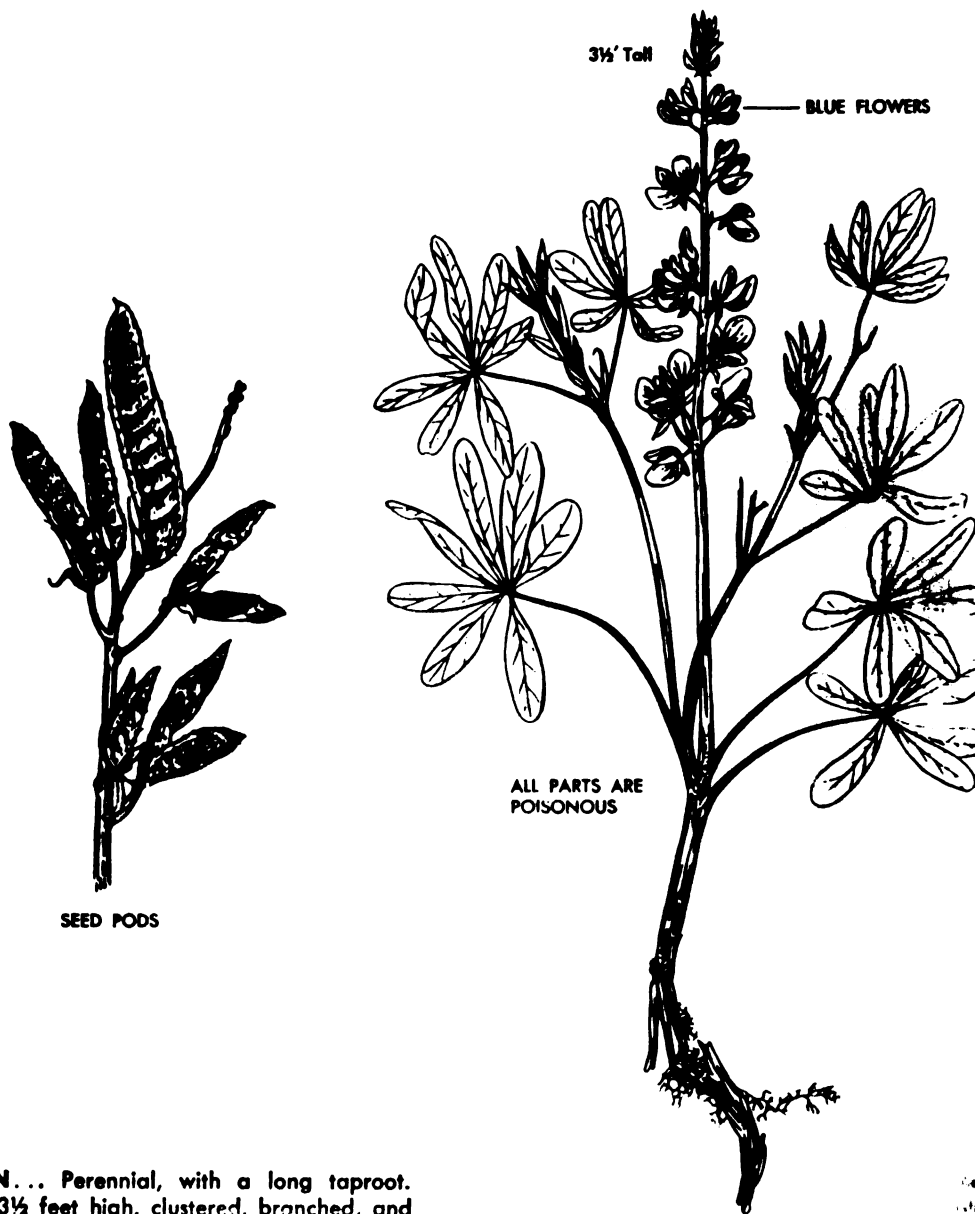
Larkspur is similar to monkshood, but the flowers are not hooded. Most kinds develop two spurs at the base of the flower.

WHERE FOUND. Monkshood and larkspur are distributed widely over the North Temperate and subarctic zones, especially in mountainous regions.

CONDITIONS OF POISONING. THESE PLANTS while poisonous at all times, seem to be most poisonous just before flowering. Symptoms are muscular weakness, irregular and labored breathing, weak pulse, bloating, belching, constant attempt at swallowing, and pupils contracted or dilated.

Figure 6. Larkspur and monkshood.

(6) Lupine:



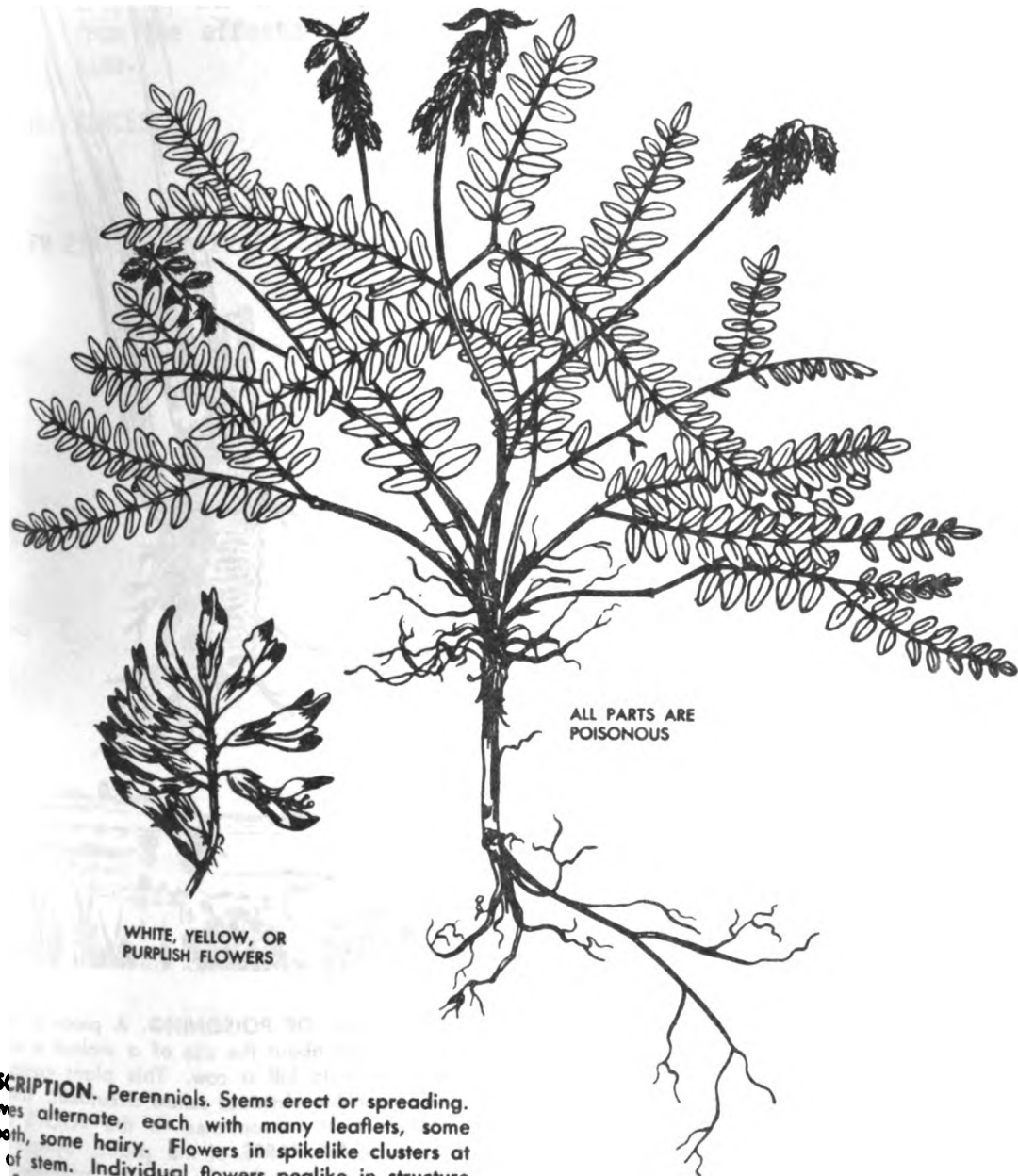
DESCRIPTION... Perennial, with a long taproot. Stems up to 3½ feet high, clustered, branched, and smooth to densely hairy. Leaves alternate, basal leaves on short stalks, palmately (like a hand) divided with 6-8 leaflets. Flowers blue, often shaded pink or white, rarely pure white.

WHERE FOUND. Found only on the North American Continent. Only one kind occurs in the arctic regions of Alaska.

CONDITIONS OF POISONING. Lupine plants contain alkaloids and are known to cause fatal poisoning in animals. When eaten in excess by humans produces serious effects. It is thought that the **WOODY FIBER** produces fatal inflammation of stomach and intestines.

Figure 7. Lupine.

(7) Vetch and locoweed:



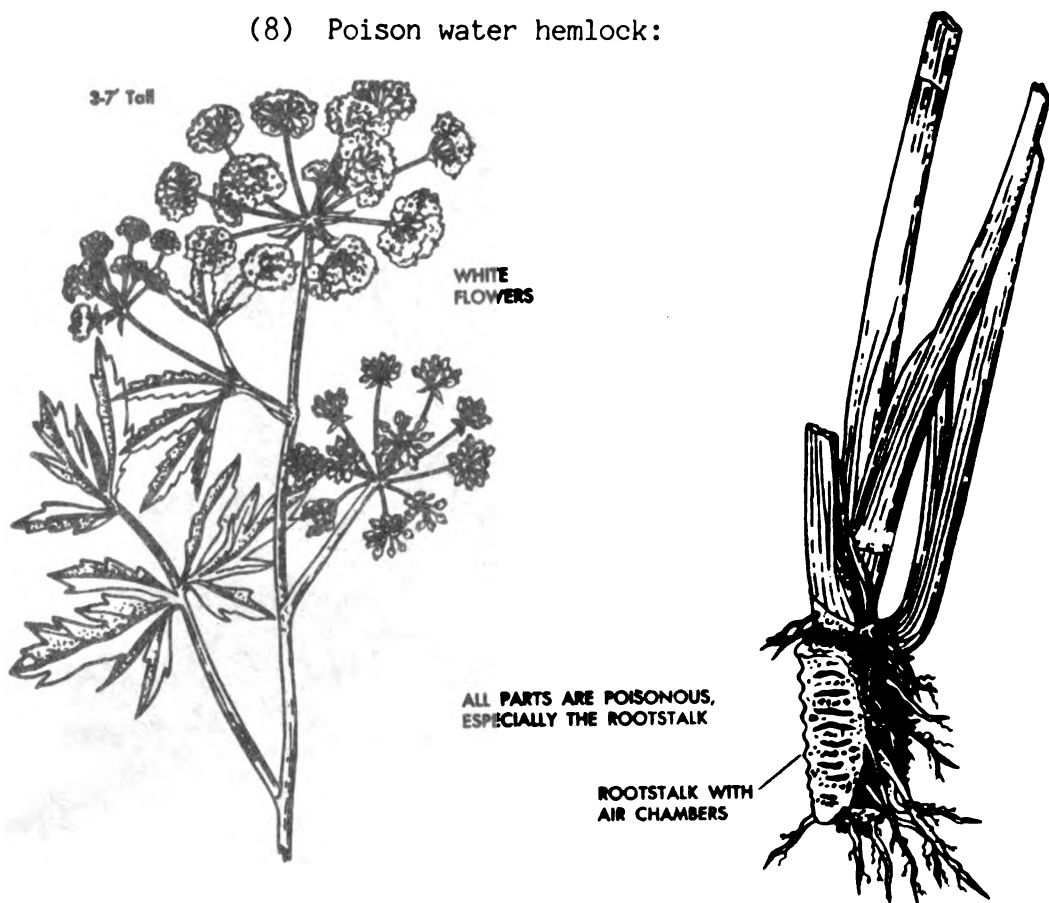
DESCRIPTION. Perennials. Stems erect or spreading. Leaves alternate, each with many leaflets, some hairy. Flowers in spikelike clusters at top of stem. Individual flowers pealike in structure with five petals, white, yellow, or purplish.

WHERE FOUND. These plants occur rather abundantly in meadows, on hillsides, and on tundra throughout the North Temperate Zone.

CONDITIONS OF POISONING. Several species of locoweed have been reported as toxic. Avoid All KINDS to be on the safe side.

Figure 8. Vetch and locoweed.

(8) Poison water hemlock:



DESCRIPTION. Perennial. Stems $3\frac{1}{2}$ to 7 feet high, stout, jointed hollow between the joints, reddish. Leaves alternate, divided into narrow leaflets with toothed edges, and the leaf veins end at or near the tooth notches. Leafstalks sheath the stem. Rootstalk short, ringed on the outer surface and often, especially when young, has many fibrous rootlets; when older, it has many spindle-shaped roots bunched at the base. When root and lower stem are split lengthwise, many cross-partitions or chambers can be easily noticed. Plant exudes drops of a yellow aromatic oil which gives it a characteristic odor. Flowers small and white, in umbrellalike clusters at the top of the stalk.

WHERE FOUND. Wet meadows, ditches, along streams, and around tundra lakes. This plant belongs to the parsley, carrot, and parsnip family, which contains many well-known edible plants, but it is better to avoid all members of this family as food in northern areas, since the related waterhemlock is fairly common in the North Temperate Zone.



CONDITIONS OF POISONING. A piece of water hemlock root about the size of a walnut is said to be sufficient to kill a cow. This plant contains a sticky, resinlike substance called circutoxin. This substance is most concentrated in the ROOTS but is present in ALL PARTS of the plant. Symptoms of poisoning are stomach pains, nausea, vomiting, and rapid pulse, and violent convulsions.

TREATMENT. In cases of hemlock plant poisoning, make the patient vomit, then give a cathartic. If vomiting is produced promptly, the victim is likely to recover.

Figure 9. Water hemlock.

2. Plants with stinging hairs generally do not constitute a real danger. Their sting, however, is painful. In the North Temperate Zone, nettles are the most common kind. In the tropics, the tree nettle and the cowhage can irritate. Recovery from the effects of these plants occurs in a relatively short time.

REFERENCES:

FM 21-76, Survival, Evasion and Escape, Mar 69 (para 2-22)

331-919-0006

CONSTRUCT A SIMPLE DRAG NOOSE

CONDITIONS:

You will be given a survival knife, a suspension line or similar material, and materials found in the area.

This will be done in a field setting containing small game and game trails.

STANDARDS:

Select a site where small game are likely to come.

Construct a simple drag noose which is large enough to capture a small animal and which will tighten when pressure is applied.

PERFORMANCE MEASURES:

1. Select the Site for the Snare.

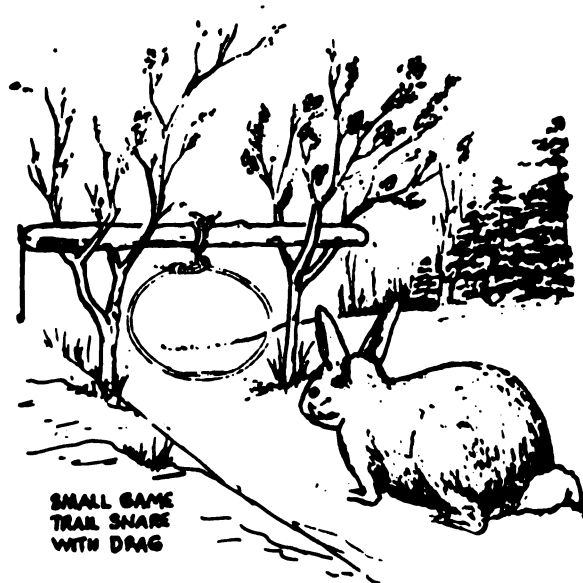
a. Rats, mice, rabbits, and squirrels have regular habits and confine themselves to limited areas of activity. Therefore, a runway containing fresh tracks or droppings is a good location.

b. Find a spot along the runway where bushes or brush will snag and hold the snare.

2. Construct the Snare.

a. Tie a noose that will either slip or tighten up.

b. Tie this noose to a drag stick that will catch in brush so that the animal's weight and speed will draw the noose about its neck, strangling it.



3. Erect Barriers on Either Side of the Runway Leading Into the Snare. Barriers should be made of dead branches, sticks, and dry leaves. Barriers should form a large V.

4. Eliminate the Human Scent. This can be done by:

a. Spreading animal blood or bladder contents around the area.

or

b. Building a fire and smoking the area.

REFERENCES:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 3-10c)

331-919-0007

CONSTRUCT A HANGING SNARE

CONDITIONS:

You will be given a survival knife, suspension line or similar material, and materials found in the area.

This will be done in a field setting containing small game and game trails.

STANDARDS:

Select a site where small game are likely to come frequently.

Construct a hanging snare that will capture and hold a small animal.

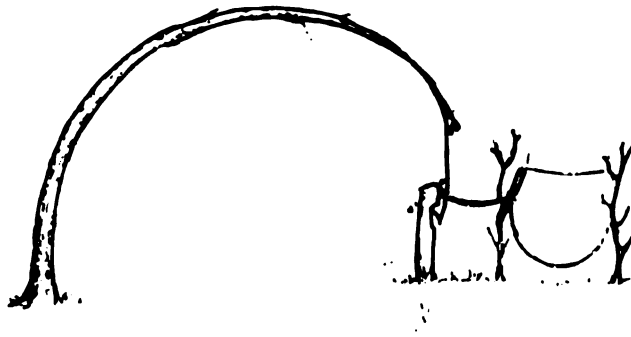
PERFORMANCE MEASURES:

1. Locate a game trail in which to place the snare.
2. Find a sapling at a place along the trail.
3. Cut a triggering device.

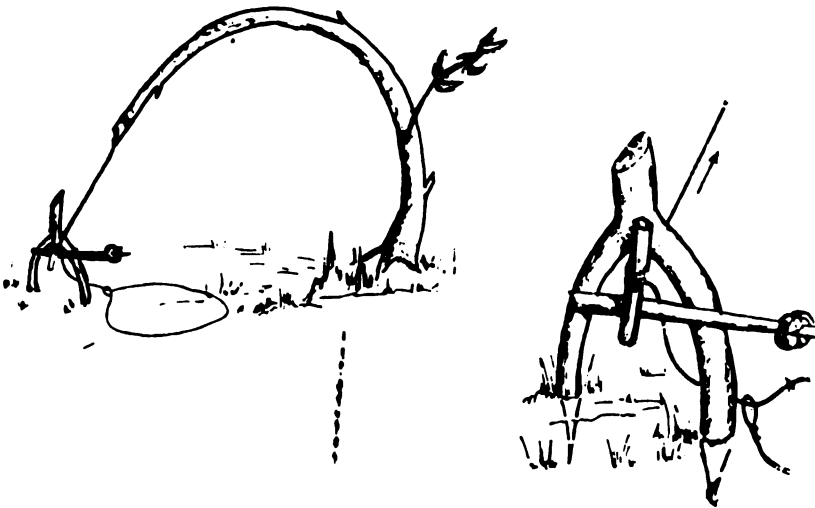


4. Place the triggering device securely in the ground so that the sapling, when bent, can be attached to the hook of the device.
5. Make a slip noose wide enough to fit over the head of the game you are planning to snare.
6. Fasten the slip noose to the end of the bent sapling and to the triggering device.

7. Make sure the trigger holds the sapling.



8. If no game trail can be found and bait is available, rig a snare as shown below.



REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 3-10c)

331-919-0008

CONSTRUCT A FIXED SNARE

CONDITIONS:

You will be given a survival knife, suspension line or similar material, and materials found in the area.

This will be done in a field setting containing small game and game trails.

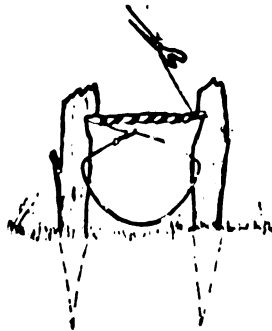
STANDARDS:

Select a site where small game are likely to come.

Construct a fixed snare that will capture and hold a small animal.

PERFORMANCE STANDARDS:

1. Locate a game trail in which to place the snare.
2. Select appropriate materials to make a triggering device like the one shown below.
3. Cut a piece of suspension line (or similar material) to a length that allows for making a slip noose large enough to catch the intended game and for attaching the noose to a bush or limb.
4. Attach the noose to the triggering device.



REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 3-10c)

331-919-0009

CONSTRUCT A DEADFALL

CONDITIONS:

You will be given a survival knife, suspension line or similar material, and materials found in the area.

This will be done in a field setting containing medium to large game and game trails.

STANDARDS:

Select a site where large animals are likely to come.

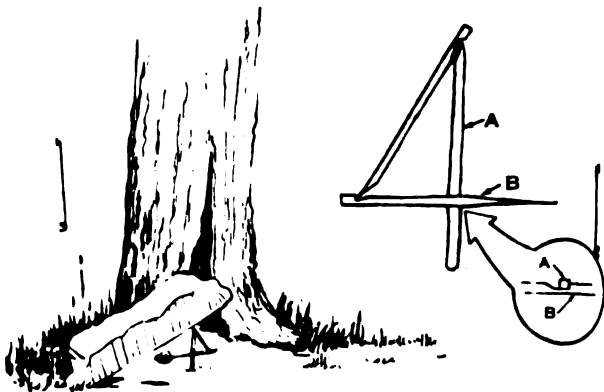
Construct a deadfall using a figure four trigger that will spring when tripped. Deadfall must be capable of catching a medium to large animal.

PERFORMANCE STANDARDS:

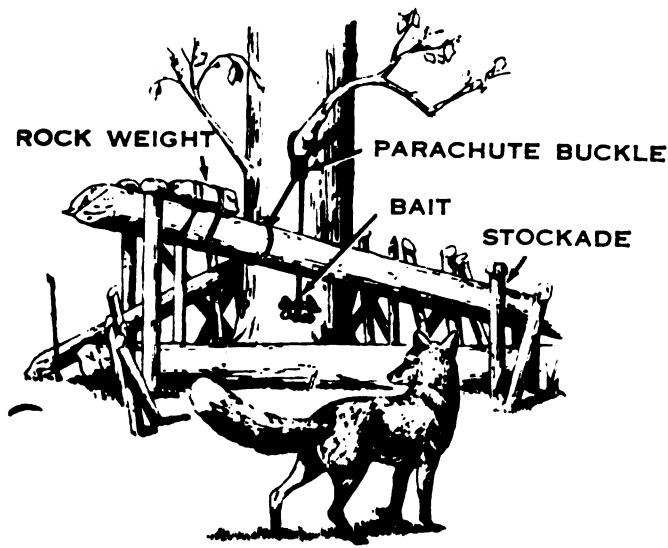
NOTE: This type trap is recommended only for areas where the number of game present justifies the time and effort spent in construction.

1. Build your deadfall close to or across a game trail beside a stream or on a ridge.

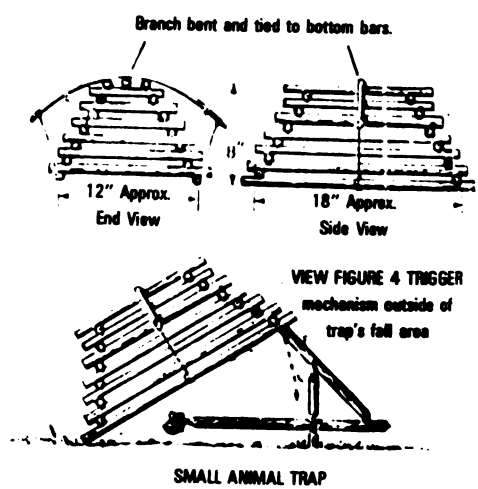
2. Construct the deadfall as shown below. Be sure the fall log slides smoothly between the upright guideposts, and that you place the bait far enough from the bottom log to insure time for the fall log to drop before the animal can withdraw its head.



A simple deadfall using a figure 4 trigger.



A fall log trap for big game.



REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 3-10c(8))

331-919-0010

MAKE A FISHHOOK

CONDITIONS:

You will be given a suspension line or similar material, survival knife, necessary materials (bone, pin, nail, or similar item).

STANDARDS:

Make a fishhook that will hook and hold a fish.

PERFORMANCE MEASURES:

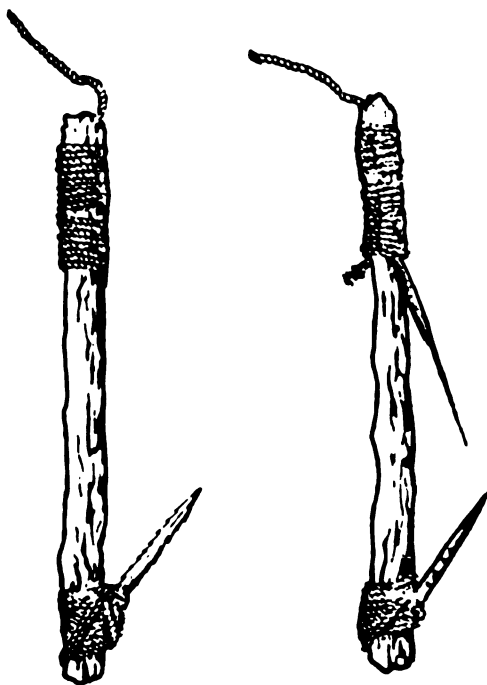
1. For the shank of the hook, cut a piece of hardwood approximately 2 inches long and one-half inch in diameter. Cut a notch near the end to hold the point (bone, pin, nail, or similar item).
2. Place the point (pin, bone, nail, or similar item) in the notch at the end of the 2-inch piece of hardwood.
3. Hold and tie the point flush against the hardwood shank.

NOTE: If suspension line or similar material is not available, a sturdy line can be made by twisting bark or cloth fibers. Using the inner bark of a tree, knot the ends of two strands and secure them to a solid base. Hold a strand in each hand and twist clockwise. Add fiber as necessary to increase the length of line.
--

a. With the suspension line, make a clove hitch and take approximately six turns around the end of the point and the hardwood shank, making sure you hold them firmly together.

b. Take two or three frapping turns between the pin and the hardwood shank to spread and hold the pin firmly angled to the shank.

c. Take two more turns around the shank and tie with a clove hitch.



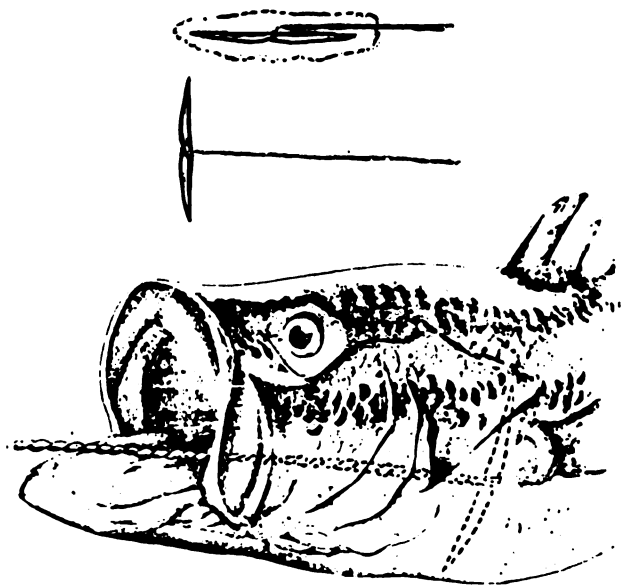
BONE

NAIL

Improvised hooks and lines.

4. An excellent hook for a set line is the gorge or skewer hook. Sink the skewer into a chunk of bait. After the fish swallows the bait, the skewer swings crosswise and lodges in the stomach, securing the fish to the line.

BAITED SKEWER



Skewer hook.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 3-7 and 8-3)

331-919-0011

START A FIRE WITHOUT A MATCH

CONDITIONS:

You will be given a lensatic compass, magnifying glass, starter material (should be available in the area), survival knife, and suspension line or similar material.

This will be done in a field setting.

STANDARDS:

Prepare the starter material.

Start a fire without using a match or lighter.

PERFORMANCE MEASURES:

1. Prepare some dry tinder. Some excellent tinders are punk, lint from cloth, rope or twine, dead palm frond, finely shredded dry bark, dry powdered wood, bird nest, wooly material from plants, and wood dust caused by insects and often found under dead trees.

2. Shelter this tinder from the wind and dampness.

3. Start fire using:

a. Sun and glass. A camera lens, a convex lens from binoculars, or lens from a telescopic sight or flashlight, or a magnifying glass from a compass may be used to concentrate the rays of the sun on the tinder.

b. Flint and steel.

(1) Fasten the flint to the bottom of a waterproof match case. A hard piece of stone will serve as a substitute.

(2) Hold the flint as near the tinder as possible and strike the flint with a knife blade or other small piece of steel. Strike downward so that the sparks will hit in the center of the tinder.

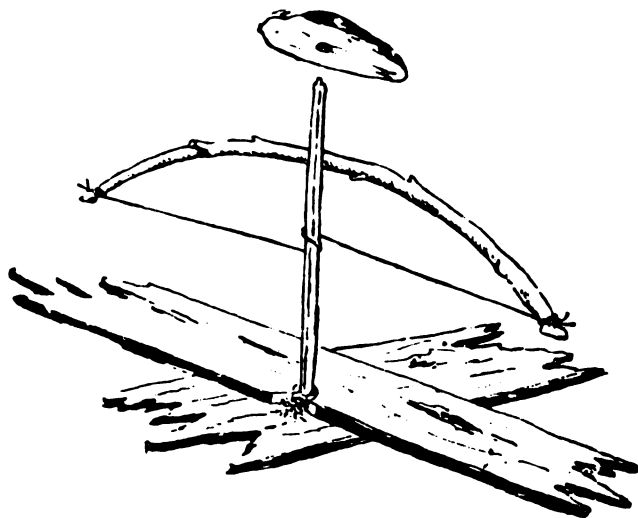
(3) When the tinder begins to smolder, fan or blow it gently into a flame.



Flint and steel.

c. Wood friction. This is a difficult method of starting a fire and ordinarily would only be used as a last resort.

(1) Bow and drill. Make a strong bow strung loosely with a shoelace, string, or thong. Use it to spin a dry, soft shaft in a small block on bone-dry hardwood. This forms a black powdered dust which eventually catches a spark. When smoke begins to rise, there should be enough spark to start a fire. Lift the block and add tinder.



Bow and drill.

(2) Fire thong. Use a strip of dry rattan for a thong, preferably about one-fourth inch in diameter and about 2 feet long, and a dry stick. Split one end of the stick and hold it open with a small wedge. Place a small wad of tinder in the split, leaving enough room to insert the thong behind it. Elevate the split end of the stick off the ground. Secure the stick in place so that you can work the thong back and forth.



Fire thong.

(3) Fire saw. Use two pieces of wood and saw them vigorously against each other.

d. Ammunition and powder. In a sheltered area, prepare a pile of kindling and wood. Place the powder from several cartridges at the base of the pile. Take two rocks and sprinkle a little powder on one rock. Then, grind the two rocks together immediately above the powder at the base of the pile. This will ignite the powder on the rock and, in turn, the larger amount of powder and kindling wood.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 4-3)

331-919-0012

DEVISE A MEANS FOR COOKING

CONDITIONS:

In a field setting, you will be given food to cook, materials found in the area, survival knife, suspension line or similar material, and poncho or parachute material.

STANDARDS:

Select a suitable site for a cooking fire.

Devise a means for cooking.

PERFORMANCE MEASURES:

1. In selecting a suitable site for a cooking fire, you must consider the type of terrain, weather conditions, type of food to be cooked, and security.

a. Locate the fire carefully to avoid setting a grass or forest fire. If the fire must be built on wet ground or snow, first build a platform of logs or stones. In rainy weather, a lean-to (see task number 331-919-0002) or a paratepee made from a parachute can be used as protection.

b. Food may be prepared by boiling, roasting or broiling, baking, steaming, or parching.

(1) Boiling is probably the best method of cooking because it conserves the natural juices of the food. Meats of all types and plant food can be boiled.

(2) Roasting or broiling is a quick way to prepare wild plant food and tender meat.

(3) Baking is cooking in an oven over steady, moderate heat. The oven may be a pit under the fire, a closed vessel, or a leaf or clay wrapping. Foods especially suitable for baking are roots and tubers; tough, heavy-skinned fruit, mollusks; and bread.

(4) Steaming can be done without a container and is

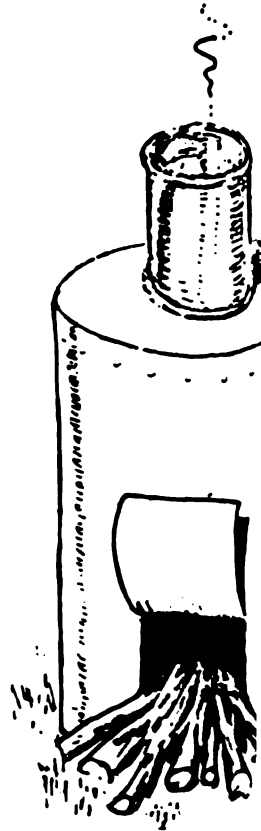
suitable for foods that require little cooking, like shellfish.

(5) Parching may be used to prepare such foods grains and nuts.

c. If security is a factor, an underground fireplace (described below) may be used.

2. Some type of stove with a small fire is best for cooking. However, following are some other means that may be used:

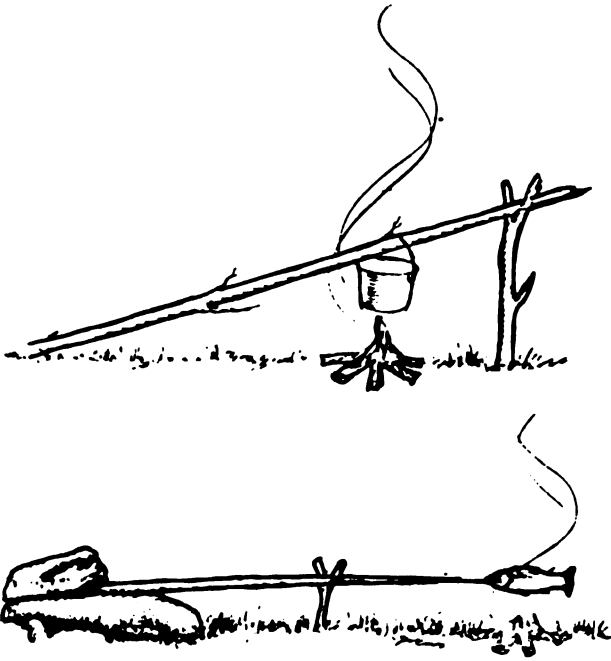
a. A hobo stove made out of a tin can conserves fuel.



Hobo Stove.

b. A simple fireplace can be made by using two stones, or a narrow trench on which to support a vessel over fire.

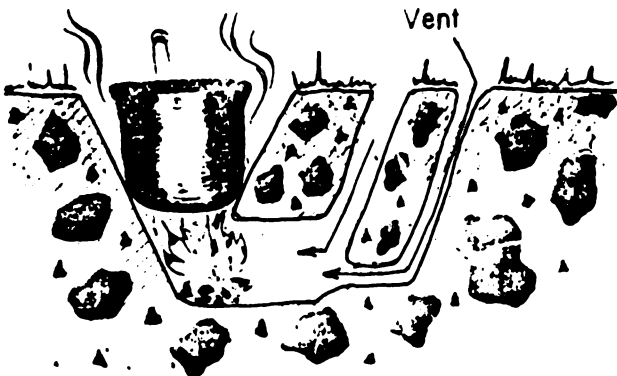
c. A simple crane propped over a forked stick will hold a cooking container over a fire.



Simple Crane.

Simple Crane.

d. An underground fireplace has a distinct advantage in a survival situation where security is essential since it will substantially reduce the smoke and flame. One or more vents on the upwind side provide an in-built draft for the fire burning under a cooking utensil.



Underground Fireplace.

3. A bed of hot coals provides the best cooking heat. Place the firewood crisscross and allow it to burn down to a uniform bed of coals.

4. A fire that is to be used for baking should be built in a pit and allowed to burn into a bed of coals.

FM 31-11B-S

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (chap 4)

331-919-0013

MAKE A WATER STILL

CONDITIONS:

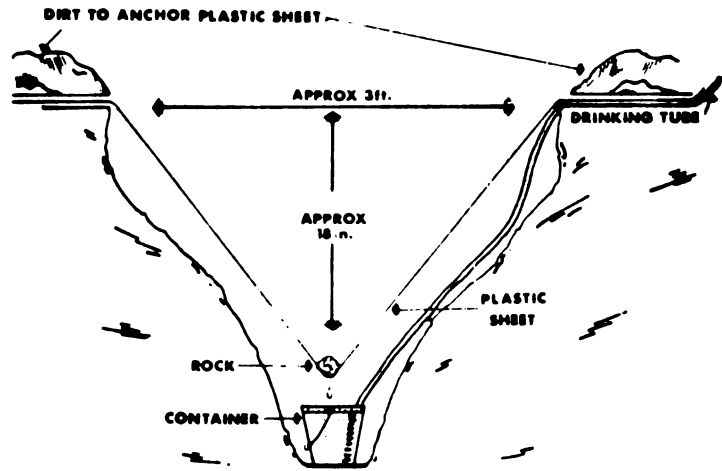
In a field setting, you will be given a poncho or sheet of plastic material 48" x 48", entrenching tool, flexible tubing, canteen cup or similar item, and materials found in the area.

STANDARDS:

Construct a still that will produce water.

PERFORMANCE MEASURES:

1. Dig a pit 3 feet in diameter and 18 inches deep.
2. Put a shallow container in the center of the pit. Extend the flexible tubing from the container to the edge of the pit (this will allow you to drink water without removing the container from the pit).
3. Spread the clear plastic (or poncho) over the pit, allowing it to sag downward over the container. Anchor the plastic in place.
4. Place a rock in the center of the plastic to form a cone directly over the container.



CROSS SECTION OF SURVIVAL STILL HEAT FROM
SUN VAPORIZES GROUND WATER THEN THIS
VAPOR CONDENSES UNDER PLASTIC TRICKLES
DOWN DROPS INTO CONTAINER.

5. Do not expect to have drinking water immediately. The least you should have in 24 hours is a pint.

NOTE: The still may also become a source of food. The water bucket under the plastic attracts snakes and small animals which crawl down the top surface of the plastic and then cannot climb out.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69, (para 3-19)

331-919-0014

OBTAIN WATER FROM PLANTS

CONDITIONS:

You will be given a survival knife, suspension line, a container, and gloves.

This will be done in a field setting in which plants that can be used for water are growing.

STANDARDS:

Select the plants from which water may be obtained.

Obtain water.

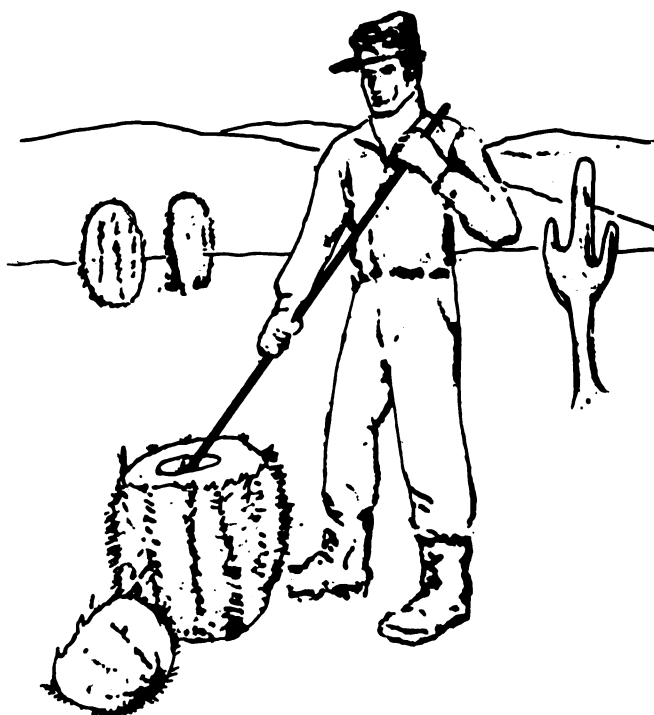
PERFORMANCE MEASURES:

1. Sap. The clear, sweet sap from many plants is easily obtained. It is pure and chiefly water.

2. Plant Tissues.

a. Many plants with fleshy leaves or stems store drinkable water. Try them wherever you find them. (See task number 331-919-0005 for plants to avoid.)

b. The barrel cactus found in southwestern United States is a possible source of water. It has a tough, outer, spine-studded rind which is difficult to cut through. Cut off the top of the cactus and smash the pulp within the plant. Catch the liquid in a container. Chunks may be carried as an emergency water source.



Water from a barrel cactus.

3. Roots of Desert Plants. Desert plants often have their roots near the surface. The Australian "water tree," desert oak, and bloodwood are examples. Pry the roots out of the ground; cut them into 24- to 36-inch lengths. Remove the bark and suck the water from the root.

4. Vines. Not all vines yield palatable water, but try any vine found. Use the following method for tapping a vine.

a. Cut a deep notch in the vine as high up as you can reach.

b. Cut the vine off closely to the ground. Water will begin to drip from the severed end. Let the water drip into your mouth or a container.

c. When the water ceases to drip, cut another piece of the vine. Repeat this until the supply is gone.

5. Palms. Buri, coconut, sugar, and nipa palms contain a drinkable, sugary fluid. To start the fluid of the coconut palm flowing, bend the flower stalk downward and cut off tip. If a thin slice is cut off every 12 hours, you can renew the flow and collect approximately a quart a day.

6. Coconut.

a. Select green coconuts; they have more milk than ripe coconuts and can be opened easily with a knife. Coconut milk is a strong laxative so do not drink more than necessary to quench your thirst (no more than 3 or 4 cups a day).

b. To open a coconut without a knife, find a sharp object such as a rock or a protruding stump. Bring the nut down on the point of the rock or stump with sufficient force to break off the outer fibrous covering. The milk can be obtained by piercing two eyes of the coconut with a sharp object such as a stick or a nail.

7. Plants That Catch and Hold Water.

a. Bamboo stems often have water in the hollow joints. Shake the stems of old, yellowish bamboo. If a gurgling sound is heard, cut a notch at the base of each joint and catch the water in a container.

b. In the American tropics, the overlapping, thickly growing leaves of the pineapple-like bromeliads may hold rainwater. Strain the water through cloth to remove most of the dirt and water insects.



Bromeliad catches water.

c. Other water-yielding plants include the traveler's tree of Madagascar, the umbrella tree of western tropical Africa, and the baobab tree of northern Australia and Africa.



Traveler's tree.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 3-17 and 3-18)

331-919-0015

PURIFY MUDDY AND STAGNANT WATER

CONDITIONS:

You will be given muddy or stagnant water, a container, and materials found in the area.

This will be done in a field setting.

STANDARDS:

Purify water.

PERFORMANCE MEASURES:

If you have exhausted all other sources of water, you may drink water from a muddy or stagnant pool even though it has an odor.

a. To clear muddy water, use one of the following methods:

(1) Let it stand 12 hours.

(2) Pass it through about 3 feet of bamboo that is filled with sand. Stuff grass in one end to contain the sand.

(3) Pour it through sand-filled cloth.

b. To purify the water, boil it for at least 1 minute; add charcoal from the fire to remove the odors. Let the water stand for about 45 minutes before drinking it.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 3-12)

331-919-0016

DETERMINE DIRECTION BY MEANS OF A WATCH

CONDITIONS:

You will be given a watch.

This will be done in a field setting during daylight.

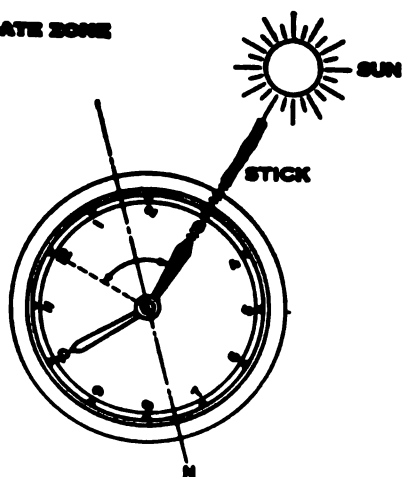
STANDARDS:

Find true north $\pm 5^\circ$.

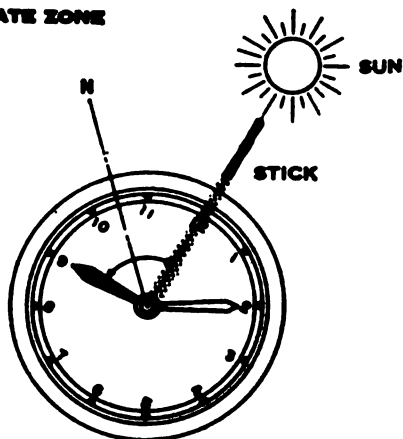
PERFORMANCE MEASURES:

1. Northern Temperate Zone.
 - a. Point the hour hand toward the sun.
 - b. Draw a north-south line midway between the hour hand and 12 o'clock.
 - c. If there is any doubt as to which end of the line is north, remember that the sun is in the eastern part of the sky before noon and in the western part in the afternoon.
2. Southern Temperate Zone.
 - a. Point 12 o'clock toward the sun.
 - b. Halfway between 12 o'clock and the hour hand will be the north-south line.
 - c. On cloudy days, place a stick at the center of the watch and hold it so the shadow of the stick falls along the hour hand.
 - d. One-half the distance between the shadow and 12 o'clock is north.

NORTH TEMPERATE ZONE



SOUTH TEMPERATE ZONE



Using a watch to find north.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 2-5)

331-919-0017

DETERMINE DIRECTION BY THE STARS

CONDITIONS:

You will be in a field setting during darkness with good visibility (able to see the stars).

STANDARDS:

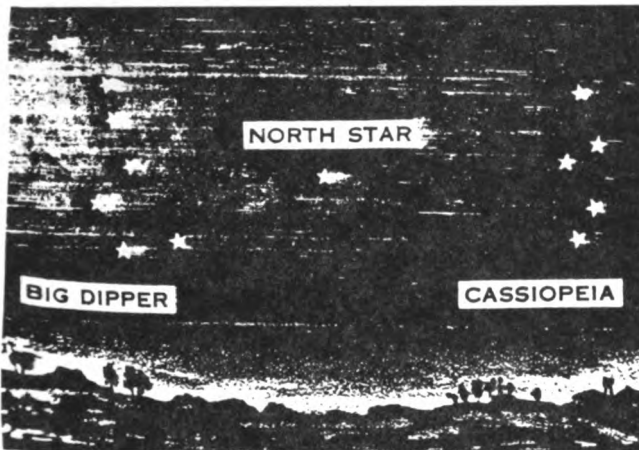
Find true north $\pm 5^\circ$ by using the stars.

PERFORMANCE MEASURES:

1. Northern Temperate Zone.

a. Find the Big Dipper. The two stars at the end of the bowl of the Big Dipper are called the "pointers." In a straight line out from the "pointers" is the North Star (at about five times the points).

b. The constellation Cassiopeia can also be used. This group of five bright stars is shaped like a lopsided M (or W, when low in the sky). The North Star is straight out from the center star.

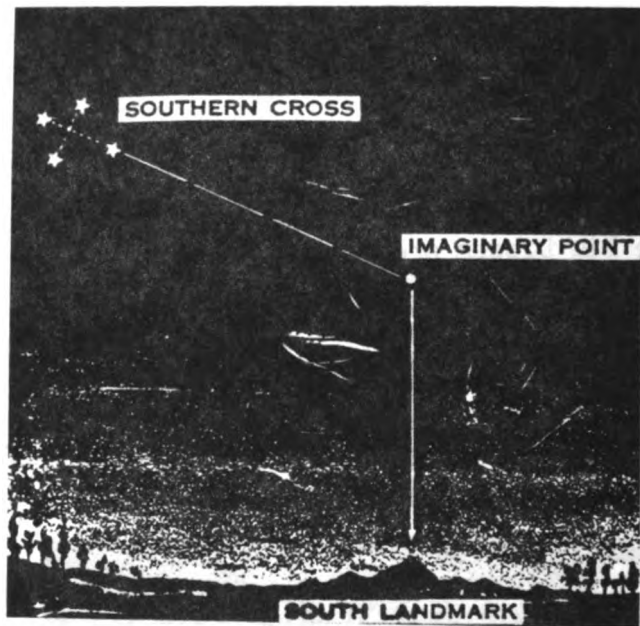


2. Southern Temperate Zone.

a. The constellation Southern Cross will help you locate the general direction of south.

b. This group of four bright stars is shaped like a cross tilted to one side. The two stars forming the long axis, or stem, of the cross are called the "pointers."

c. From the foot of the Cross, extend the axis to five times its length to an imaginary point. This point is the general direction of south.



REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 2-5)

331-919-0018

DETERMINE DIRECTION BY THE SHADOW TIP METHOD

CONDITIONS:

You will use the materials found in a field setting.

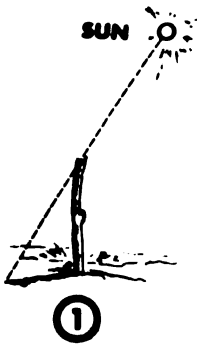
This will be done during daylight hours.

STANDARDS:

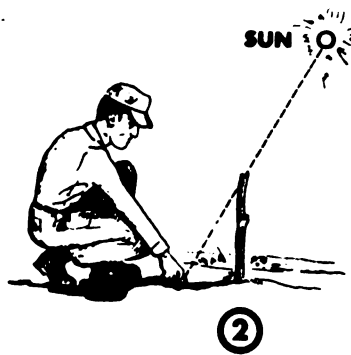
Find true north $\pm 5^\circ$.

PERFORMANCE MEASURES:

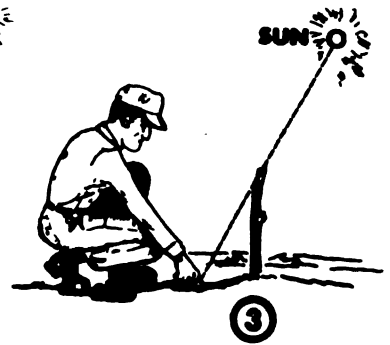
1. Find a fairly straight stick about 1 meter long.
2. Push the stick into the ground at a fairly level, brush-free spot where a distinct shadow will be cast.
3. Mark the shadow tip.
4. Wait until the shadow tip moves a few inches. Ten to fifteen minutes should be enough time to wait.
5. Mark the shadow tip.
6. Draw a straight line from the first mark to the second mark, extending the line 1 foot past the second mark.
7. Stand with the toe of the left foot at the first mark and the toe of the right foot at the end of the line you drew. You are now facing north.



Push the stick into the ground at a level spot, so that it is straight up and down; notice that the stick cast a shadow.



Mark the tip of the shadow with a small rock and wait until the shadow moves a few inches 10-15 minutes.



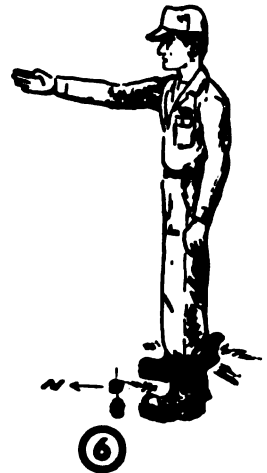
Mark the tip of the second shadow.



Draw a line from the first rock to the second rock and about a foot past the second rock.



Stand with the toe of your left foot at the first rock and the toe of your right foot at the end of the line you draw.



You are now facing north.

REFERENCE:

FM 21-76, Survival, Evasion, and Escape, Mar 69 (para 2-5)

874-896-3001

PREPARE AND CONDUCT A PERFORMANCE-ORIENTED
TRAINING SESSION (INDIVIDUAL AND COLLECTIVE)

CONDITIONS:

Given complete commander's guidance for preparation and conduct of a specific training session (individual or collective); an ARTEP applicable to your unit; Soldier's Manuals for the MOSs of your subordinates; FM 21-6; and access to your unit's training aids and devices, TEC equipment, and training facilities/areas.

STANDARDS:

Within the time and resource given in the commander's guidance, conduct the training session so that each individual or element(s) can perform to the standards specified and under the conditions listed in the commander's training objective.

PERFORMANCE MEASURES:

1. Overview. The preparation and conduct of performance-oriented training (be it individual or collective, equipment or tactically oriented) consists of the three-step backward planning process:

- a. Describe the desired results of training.
- b. Prepare to conduct training.
 - (1) Establish intermediate training objectives.
 - (2) Determine and organize training required.
- c. Conduct training to standards.

A more detailed discussion of these three steps is outlined below.

2. Describe the Desired Results of Training. If you are given complete guidance by your commander, this step is done for you; if not, you will have to complete it so that it is satisfactory to your commander. To be complete, it must include the following:

a. WHAT SPECIFIC TRAINING OBJECTIVE DO YOU WANT ACCOMPLISHED? The training objective should include the task that the soldiers must be able to perform, the conditions under which the soldiers must perform the task, and the training standard which specifies the proficiency the soldiers must attain.

b. TO WHOM WILL THE TRAINING BE GIVEN? (e.g., two squads.)

c. WHEN WILL THE TRAINING TAKE PLACE? (e.g., 1300-1700 hours, 25 September, 3 weeks from now.)

d. WHERE WILL THE TRAINING TAKE PLACE? (e.g., Training Area K.)

e. WHY THE COMMANDER DECIDED TO CONDUCT THE TRAINING. What were his reasons for his decision?

3. Prepare To Conduct Training. This step is usually the most time consuming and difficult of the three steps. Do not take it lightly; however, if done properly it will insure the success of your training effort. It consists of the following:

PREPARE TO CONDUCT TRAINING

Establish Intermediate Training Objectives by:

Developing tasks required to accomplish the commander's training objective.

Establishing the conditions under which each task must be accomplished.

Establishing a training standard of performance for each task.

Determine and Organize Training Required by:

Determining which intermediate training

objectives the soldiers cannot successfully perform without further training.

Organizing the intermediate training objectives into a progressive sequence (simple to complex) consistent with the available resources.

Estimating the training resources, trainer techniques, aids and devices needed to accomplish each objective.

Completing administrative requirements (e.g., obtaining equipment, writing the lesson plan, rehearsing training, etc.).

There are several references and aids which can assist you in accomplishing this step.

a. FM 21-6, How to Prepare and Conduct Military Training, provides detailed discussion on the preparation and conduct of training.

b. The ARTEP for your unit lists training objectives for most of the collective tasks you will be concerned with.

c. Soldier's Manuals list training objectives and intermediate training objectives for individuals for most of the training (both individual and collective) you will encounter. In addition, they provide training tips which can assist you in your preparation.

d. Training Extension Course (TEC) lessons develop (or will in the future) most of your intermediate training objectives into prepackaged lessons. In some cases they are hands-on. In others, you must complete the training by providing the performance practice and evaluation. In addition, the pretest for each lesson can help you identify which intermediate training objectives require (or do not require) training.

4. Conduct Training to Standards. The basics of the conduct of training are presented in the TASK: Conduct a performance-oriented training session. In some cases, when collective training is involved, you will find the use of multiechelon training to be an efficient method of training. Despite the different name, the basics still apply. You might require assistant trainers (other squad leaders, for example) but the process of conducting training remains the same:

- a. Explain and demonstrate.
- b. Soldiers/teams/squad practice.
- c. Test.

Remember: the key to success is a good training objective.

REFERENCES:

FM 21-6, How to Prepare and Conduct Military Training, Nov 75
(chap 6, pages 51-70, 76)
TEC Lessons 901-071-0091-F through 0097-F

874-896-4001

MONITOR AND EVALUATE TRAINING

CONDITIONS:

As a senior NCO, given guidance to monitor and evaluate a specific training session (individual or collective); training schedule applicable to your unit; Soldier's Manuals for the MOSs of your subordinates; FM 21-6; parent unit Training Evaluation Report Form; status report and lesson plan.

STANDARDS:

Within the time available, monitor and evaluate the training session and determine, as a minimum:

1. Whether complete performance-oriented training objectives have been developed.
2. Whether, as a result of the training, the soldiers undergoing training can perform the objective(s) and meet or exceed the established training standard(s).

PERFORMANCE MEASURES:

1. General. Monitoring and evaluation is a never-ending first and last step in the commander/training manager's efforts to plan and conduct efficient and effective training. Proper conduct of these activities provides the commander/training manager with information and data he needs to prepare or revise his plans for future training. With respect to monitoring and evaluation of training, the commander/training manager is concerned with two issues: efficiency and effectiveness.

TRAINING EVALUATION REPORT				
Unit _____	Date _____			
Subject/Mission _____	Principal Trainer _____			
Time Training Began _____	Soldiers Present for Training _____			
Ended _____	Time Evaluator Arrived _____			
Location _____	Departed _____			

	YES	NO	N/A	Not Observed
1. Did the trainer have specific training objectives to accomplish (i.e., did all objectives (commander's and intermediate) specify the task(s) to be performed, the conditions of performance, and the training standard of acceptable performance)?	☐	☐	☐	☐
Comments:				
2. As a result of the training, did the soldiers perform successfully (i.e., meet or exceed the training standards) the commander's training objective(s)?	☐	☐	☐	☐
Comments:				
3. Were the resources adequate to accomplish the training?				
Time	☐	☐	☐	☐
Equipment	☐	☐	☐	☐
Training Area(s)/ Classroom	☐	☐	☐	☐
Ammunition	☐	☐	☐	☐
Training Aids/ Devices	☐	☐	☐	☐

Figure 1. Training evaluation report.

	YES	NO	N/A	Not Observed
Trainers (principal & assistants)	☐	☐	☐	☐
Comments:				
4. Did the training progress in a logical sequence toward meeting the commander's training objective(s)?	☐	☐	☐	☐
Comments:				
5. Did the soldiers undergoing training appear to be motivated?	☐	☐	☐	☐
Comments:				
6. Did the trainer:	☐	☐	☐	☐
a. Inform the soldiers of the training objective(s) to be accomplished and give reason(s) for the training?	☐	☐	☐	☐
b. Arrange training area so all could see and hear well?	☐	☐	☐	☐
c. Use understandable words?	☐	☐	☐	☐
d. Demonstrate how to perform the objective(s) (when appropriate)?	☐	☐	☐	☐
e. Give all necessary information?	☐	☐	☐	☐
f. Avoid giving unnecessary information?	☐	☐	☐	☐
g. Require "walk through" performances of the objective (if appropriate).	☐	☐	☐	☐
h. Encourage questions?	☐	☐	☐	☐
i. Exhibit adequate knowledge of subject matter?	☐	☐	☐	☐
j. Show interest in helping the soldiers learn?	☐	☐	☐	☐
k. Make acceptable use of training aids?	☐	☐	☐	☐
l. Use assistant trainers to best advantage?	☐	☐	☐	☐
m. Require practice until the training standards were achieved?	☐	☐	☐	☐
n. Test soldier's ability to perform the commander's training objective?	☐	☐	☐	☐
Comments:				
7. Would you consider this training adequate?	☐	☐	☐	☐
Specific recommendations:				

Figure 1. Training evaluation report (cont).

a. Training efficiency is determined by how well the trainer (and, indirectly, the training manager) used what was available (i.e., the training resources--time, personnel, facilities, equipment, funds, etc.) to train the soldiers.

b. Training effectiveness is determined by how well personnel undergoing training can meet or exceed established performance standards specified in the commander's training objective(s).

2. Training Evaluation. There are many items in the preparation and conduct of training that can be evaluated. However, only two items are critical:

a. Have training objectives (the commander's and intermediate, if needed) been developed that specify task, conditions, and training standards?

b. As a result of the training, can soldiers perform the training objectives and meet or exceed training standards?

If the answer to both questions is yes, everything else is largely secondary (e.g., the appearance of training, the presentation techniques used by the trainer(s), the format of the lesson plans, etc.).

3. How To Evaluate (Inspect) Training. A good evaluator is concerned with the conduct of training. His evaluation should concentrate on:

a. Whether complete performance-oriented training objectives have been developed.

b. Whether, as a result of the training, the soldiers undergoing training can perform the objectives(s) and meet or exceed the established training standard(s).

All other items are secondary, but by evaluating them, future training may be made more efficient. In performance-oriented training, the goal is for all the soldiers to successfully perform all the training objectives. The Training Evaluation Report (see fig. 1) is provided as a guide for developing one for a unit.

REFERENCES:

FM 21-6, How to Prepare and Conduct Military Training, Nov 75
(app D, pages 117-124)

TEC Lesson 901-071-0097-F, Evaluating Training

CHAPTER 3

ADDITIONAL TASKS FOR SELECTED DUTY POSITIONS

Section I

Operations Sergeant and Assistant Operations Sergeant

Section II

Light Weapons Leader

CHAPTER 3

ADDITIONAL TASKS FOR SELECTED DUTY POSITIONS

The tasks in chapter 3 are required for Special Forces personnel holding Operations Sergeant, Assistant Operations Sergeant, or Light Weapons Leader positions. This is in addition to the tasks in chapter 2 required of all personnel in Special Forces.

You will find several tasks that are the same as your basic 11B Soldier's Manual in skill levels 3, 4, and 5. For the Special Forces Soldier assigned to one of these positions, all of the tasks are required.

Note: The FM 7-11B tasks were prepared for conventional operations and use the "terms" platoon, squad, and team. For Special Forces operations, these "terms" should be changed to detachment, team, element, etc., as appropriate for the particular situation/mission; i.e., unconventional warfare (UW), special operations, or foreign internal defense (FID).

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Section I

Operations Sergeant and Assistant Operations Sergeant

071-11B-5420

PREPARE INTELLIGENCE PORTION OF OPERATION ORDER

CONDITIONS:

During combat operations, CPX, FTX, or peacetime contingency, given commander/S2 guidance (to include time available for preparation), #2 pencil, paper, and the following S2 reference materials: Spot Reports, Intelligence Report S2 Workbook, S2 Situation Map, Journal, and FM 101-5.

STANDARD:

Information in paragraph 1a will be listed in the following sequence:

* * * * *

1. SITUATION

a. Enemy Forces:

(1) Items pertaining to the enemy situation (e.g., disposition, composition, strength, morale, and status of supply).

(2) Enemy capabilities.

(3) Enemy's most probable course(s) of action.

* * * * *

PERFORMANCE MEASURES:

1. Operation Plan or Order. Intelligence on enemy forces is disseminated in paragraph 1a of the operation plan or order. Intelligence contained in this paragraph may be supplemented by referring to a published intelligence annex or to an intelligence summary. If an annex or summary is already disseminated and remains current, then this paragraph may consist only of a reference to these documents.

a. Preparation of the operation order is the responsibility of the S3. The S2's contribution to the order should be submitted to the S3 in a form that requires no further editing. Using the prescribed format facilitates including this material in the appropriate paragraphs of the order.

Information in paragraph 1a should be listed in a definite sequence as follows:

* * * * *

1. SITUATION

a. Enemy Forces:

(1) Items pertaining to the enemy situation (e.g., disposition, composition, strength, morale, and status of supply).

(2) Enemy capabilities.

(3) Enemy's most probable course(s) of action.

* * * * *

b. Paragraph 1a is a means of disseminating intelligence to subordinate units. During the preparation of paragraph 1a when applicable, the S2 should prepare the intelligence portion of the final subparagraph of paragraph 3. The final subparagraph of paragraph 3 is entitled "Coordinating Instructions," and contains tactical instructions and details of coordination (other than signal items) applicable to two or more elements of the command. Coordinating Instructions may include these items for the S2:

(1) Essential elements of information (brigade and higher levels) or specific orders for information (normally battalion and lower levels) of an intelligence nature.

NOTE: The order is only one method the S2 uses to disseminate EEI (brigade and higher) or orders for information (battalion). Absence of these items in the order does not mean the S2 is not disseminating this information.

(2) Any counterintelligence measures not a matter of SOP (except signal counterintelligence).

2. Figure 1 is an example of the type of information included in paragraph 1a and the coordinating instructions subparagraph of paragraph 3.

(Classification)1. SITUATIONa. Enemy Forces:

(1) OPFOR 105th Mech Regt now unlocated. Units in zone estimated 70% strength. Morale is poor. OPFOR believed short of nuclear warheads.

(2) OPFOR capable of conducting local counterattacks anywhere in zone with units up to company size.

(3) Indications are that OPFOR will delay in present and successive positions.

2. MISSION3. EXECUTIONCoordinating Instructions:

(1) Ea fwd co occupy COP with maximum of one reinforced platoon.

(2) Annex B (Counterattack Plan (GOLD)).

(3) On order, Co B attach one plt to Co C (-) to assist in containing possible penetrations.

(4) Orders and requests for information.

(a) Report as obtained by location, number, and type, any enemy crew-served weapons on or near the east bank of the SEINE River.

(b) Report as observed the movement of enemy units by direction and time of starting movement.

(c) Report as observed the occupation of presently unoccupied positions within zone.

(5) Counterintelligence measures:

Reconnaissance of crossing sites only as authorized.

(Classification)

Figure 1. Example of type of information included in paragraph 1a and coordinating instructions of paragraph 3.

REFERENCES:

0-5, Combat Intelligence

101-5, Staff Officers' Field Manual: Staff Organization and Procedure

071-11B-5430

ESTABLISH/MAINTAIN AN INTELLIGENCE WORKBOOK

CONDITIONS:

As the battalion or brigade intelligence sergeant, given the intelligence summary (INTSUM) format, pencil, journal and journal file, written and/or oral reports (e.g., SPOTREP, SITREP, or NBC reports, etc.), blank paper, index tabs, and a looseleaf notebook.

STANDARDS:

As a minimum, you must—

1. Establish and maintain the workbook following the locally prescribed format.
2. Insure that workbook entries are kept current by posting new entries and deleting or removing entries as they become obsolete.
3. Insure that entries are entered under the proper headings and are cross-referenced when necessary.
4. Insure that entries include the journal serial number, the date-time group that the incident actually happened, and a written extract of the message or report.
5. Insure that confirmed entries are noted as confirmed or being confirmed.

PERFORMANCE MEASURES:

1. The intelligence workbook is a temporary record of enemy information, weather, and terrain characteristics. Information is recorded by subject headings which helps to sort, evaluate, and interpret the information. When properly maintained, the workbook is a valuable tool to prepare intelligence estimates, summaries, and reports.
2. The workbook is usually a looseleaf notebook with index tabs identifying subject headings. Blank sheets of paper are used under each tab to record the notes. The workbook does not

have a prescribed format, though, as a matter of convenience, it is desirable to use the paragraph headings of the intelligence summary (INTSUM) at battalion and brigade levels. A sample workbook is shown in figure 1.

CLASSIFICATION S2 WORKBOOK FROM: _____ HOUR AND DATE TO: _____ HOUR AND DATE HEADQUARTERS: _____ PLACE: _____ LEGEND (ACTION TAKEN) M- SIT MAP POSTED S- STAFF NOTIFIED BDE- BRIGADE S2 NOTIFIED COS- COMPANIES NOTIFIED CLASSIFICATION	3. EN ACTIVITY A. GRD ACTIVITY INF ARM ARTY
	B. TRACE OF FWD ELMS C. POTENTIAL NUCLEAR TARGETS D. NUCLEAR ACTIVITY E. CBR ACTIVITY F. AIR ACTIVITY G. OTHER
	4. ENEMY LOSSES A. KIA
	B. PW
	C. EN EQUIP DE- STROYED OR CAPTURED
	5. NEW OBSTACLES AND BARRIERS
	6. ADMIN ACTIVITIES
	7. NEW IDENTIFICATIONS A. UNITS
	B. PERSONALITIES
	8. EN MOVEMENT
	9. EST NUMBER AND TYPES OF VEHICLES
	10. WEATHER AND TERRAIN CONDITIONS
	11. CAPABILITIES AND VULNERABILITIES
	12. CONCLUSIONS

Figure 1. Sample intelligence workbook.

3. Maintaining the workbook simply requires that you record information and significant events and delete this same material when it is no longer needed, is outdated, or is published in a formal report.

a. All information and intelligence on the same subject is recorded on the same page. When entering a message, you must insure that you enter, as a minimum, the following:

(1) Time that the event occurred. (Note that this is the time of the event and not the time received or logged.)

(2) The agency or source of the message.

(3) An extract of the message.

(4) When two or more messages confirm an event, a notation to this fact.

(5) When information is extracted from the journal, record in the workbook the journal serial number and date-time group the incident happened. For example, J-4 indicates the journal serial number, and 180800Z Feb 76 indicates when the incident happened.

b. When an entry in the workbook is no longer of any value or has been recorded in a published report (e.g., in the INTSUM), the entry should be lined out. When the entire page is no longer of any value, it is removed and destroyed.

c. A single message may require entries under more than one heading if the information contained in it applies. For example, a message reports that an enemy tank attack supported by chemical weapons was repulsed. Two enemy tanks were destroyed, two enemy soldiers were killed, and six enemy soldiers were captured. This single message would result in separate entries in each of the following paragraphs. (See fig. 1.)

(1) 3a, Enemy Activity, Ground.

(2) 3e, CBR Activity.

(3) 4a, Enemy Losses, KIA.

(4) 4b, Enemy Losses, PW.

(5) 4c, Enemy Losses, Enemy equipment destroyed or captured.

d. The workbook must be marked with the highest overall classification of any classified material contained in it.

REFERENCE:

FM 30-5, Combat Intelligence

071-11B-5431

PREPARE/UPDATE THE S2'S FRIENDLY/ENEMY SITUATION MAP

CONDITIONS:

During battalion combat operations, CPX, or FTX, given mounted acetate covered mapboard, grease pencils (red, black, blue, green, yellow), coordinate scale, spot reports, situation reports, current up-to-date S2 and S3 workbooks, complete copy of battalion OPORD which unit is presently executing, intelligence reports (INTREPS), intelligence summaries (INTSUMS), intelligence estimates, and FM 21-30, Military Symbols.

STANDARDS:

1. Post all available locations or overlay traces of enemy units/elements to within 50 meters.
2. Post critical points, friendly command posts, and friendly boundaries to within 25 meters.
3. Upon receipt of new INTSUMS, INTREPS, and spot reports, post and update information to the same degree of accuracy as above.

PERFORMANCE MEASURES:

1. General. The situation map is a temporary graphic display of the current dispositions and major activities of the enemy. Information of friendly forces on this map is usually limited to boundaries; locations of command posts of higher, lower, and adjacent units; reconnaissance units; and the forward edge of the battle area. Separate overlays are often used to display separate categories of information. A typical overlay might depict fortifications, while another is used to show potential nuclear and chemical targets, and still another presents details of order of battle. The latest time at which the activity was observed or the disposition confirmed should be indicated when plotting enemy activities and dispositions. The intelligence sergeant keeps the situation map or overlay as simple as possible. He uses authorized conventional signs, military symbols, and abbreviations. (See FMs 21-30 and 21-31 for authorized military and topographic symbols.)

2. Temporary Recordings. Other information and intelligence aspects of the situation may be recorded on situation maps. Chemical staff officers or NCOs at respective headquarters, for example, record reported nuclear bursts and chemical and biological data on situation maps. Engineer staff officers or NCOs similarly record mine and obstacle data.

3. Permanent Recordings. Permanent recordings of the information on a situation map may be done by overlay tracing or by periodically photographing the map. Periodic overlays made from the G2/S2 situation map will provide quick reference to past enemy activity in a given area, can record locations of hard targets such as bunkers, trenches, or anti-aircraft emplacements, and can assist the G2/S2 in determining patterns of enemy movement and intentions.

4. Maintaining the Situation Map. Maintenance of the situation map at brigade and battalion levels is usually a joint S2/S3 action while at higher levels a separate situation map is maintained by each section. The friendly situation is basically the responsibility of the S3 while the enemy situation is basically the responsibility of the S2. During operations, personnel from either section may plot friendly or enemy entries on the situation map and perform other processing functions.

5. Posting of Friendly/Enemy Information. The situation map provides a basis for comparison of the enemy situation against the friendly situation. From the intelligence sergeant's standpoint, pertinent information of the enemy is recorded graphically on the situation map for reference and study. Whenever possible, both the situation map and the S2 workbook will be maintained. However, in a fast-moving situation when the volume of messages is such that both cannot be maintained effectively, priority should be given to keeping the situation map current. The information posted varies with the size of the friendly unit. The smaller the unit, the more detailed is the information recorded. As a general rule, depict enemy units two echelons lower than your own. Although higher enemy echelons may be posted if this is the most specific information available. Division situation maps, for example, show the location of enemy units down to battalions, though some smaller elements, such as fire delivery means, are also shown. Brigade situation maps would show enemy units down to battalions and companies. Battalion situation maps would show enemy units down to companies and platoons. The following types of entries pertaining to the enemy should be posted on the situation map:

- a. Unit identification.
- b. Unit dispositions.

- c. Boundaries.
- d. Location of weapons, to include—
 - (1) Automatic weapons positions.
 - (2) Supporting mortars.
 - (3) Antitank gun positions.
 - (4) Artillery positions.
 - (5) Armored vehicles.
 - (6) Antiaircraft automatic weapons positions.
 - (7) Air defense artillery positions.

- e. Minefields.
- f. Roadblocks.
- g. Entrenchments.
- h. Other obstacles or defensive installations.
- i. Logistics and command facilities.
- j. Activities.
- k. Terrain data.
- l. Aircraft or helicopter staging areas.
- m. CBR contaminated areas.
- n. Enemy radars and other ground surveillance devices.
- o. Major roads or trails for movement of personnel, weapons, and equipment.

6. Purpose. The purpose of the intelligence situation map is to contribute to sound tactical decisions. The primary intelligence uses of the situation map are—

- a. To display the enemy disposition and situation.

- b. To provide a basis for comparison in order to determine the significance of newly received data pertaining to the enemy forces.

c. To provide a background and basis for briefings and other required intelligence reports.

d. To provide the basis for overlays which graphically portray the enemy situation.

e. To assist in the determination of patterns of movement of guerrilla or insurgent forces.

f. To focus attention on possible intelligence gaps which require redirection of the collection effort. For example, the need to locate and identify enemy units reported for the first time.

7. Secondary Uses. The secondary intelligence uses of the situation map are to post--directly on it or in its margins--the following information:

a. Computations of enemy personnel and weapons strengths (based on normal strength of the size enemy units believed to be in the area).

b. Organization charts of specified enemy units (based on order of battle information).

c. Summaries of weather and terrain data.

d. A listing of priority intelligence requirements.

e. Notations pertaining to current patrol plans.

f. Closing time computations.

g. A listing of friendly attachments.

h. A listing of unlocated enemy units believed to be in the area of operations.

8. Techniques for Maintaining the Intelligence Map. The intelligence sergeant should consider using the following technique to maintain the situation map:

a. Rather than attempting to plot all entries on a map by means of conventional or improvised military symbols, a number or letter may be plotted in the area where the activity was observed. A corresponding letter or number can then be entered into a space alongside the map and a notation entered as to the activity observed. The number or letter used may also be easily cross-indexed to the journal or message file for a complete report. The situation map should be used in conjunction with

the intelligence estimate for analysis of the enemy situation and capabilities. The situation map might be misleading if used by itself for this purpose.

b. A variation of the above would be to draw a line from the descriptive passage or statement to the exact location on the map where the activity was observed.

c. Care must be taken to prevent overcrowding of the map. One method of doing this is to group entries by categories on a series of acetate overlays.

d. An enlarged sketch map can also be prepared to cover overcrowded areas. This allows the posting of additional details.

e. When separate maps are used by staff elements in a headquarters care should be taken to insure that acetate overlays are readily interchangeable between maps within that headquarters. This is also true when an informal S2 work map is maintained. This precaution will permit easy comparison of the current enemy situation from the G2/S2's map with the disposition of friendly forces on the G3/S3's and easy comparison of enemy obstacles, barriers, and minefields with planned routes of march for friendly operations, etc.

REFERENCES:

FM 30-5, Combat Intelligence
 FM 101-5, Staff Officers' Field Manual: Staff Organization and
 Procedure

071-11B-5432

PREPARE/UPDATE INTELLIGENCE WORKMAP

CONDITIONS:

As the intelligence sergeant in a tactical headquarters, during combat or simulated combat operations, given a requirements to prepare and maintain an intelligence workmap, copies of FM 21-30 and FM 30-5, the appropriate map sheets showing unit's area of interest, a map board, colored grease pencils, and acetate.

STANDARDS:

As a minimum you must—

1. Prepare acetate overlays that will interchange with the situation map.
2. Post the following friendly information:
 - a. Boundaries.
 - b. Command posts of higher, lower, and adjacent units.
 - c. Reconnaissance units.
 - d. The forward edge of the battle area.
3. Post enemy information to include Size, Activity, Location, Unit, Time, and Equipment when available.

PERFORMANCE MEASURES:

1. The intelligence workmap differs from the situation map in that it is a more detailed graphic representation of the enemy situation and disposition. The workmap is a tool used for planning the intelligence collection effort and does not replace the requirement to post pertinent information on the situation map.
2. The workmap consists of the map sheets that portray the unit's area of interest and, when known, areas of future operations. The map must be constructed so that its acetate

overlays are interchangeable with the situation map. The overlays can then be prepared by grouping entries by categories. For example, overlays may be prepared to depict the surveillance plan, the patrol plan, CBR contaminated areas, or other major intelligence areas required to support the collection effort.

3. Information posted on the map varies with the size of the friendly unit. The smaller the unit the more detailed the information and size of the enemy units posted. Enemy units are posted using the "two echelon down" rule. For example, at division level, enemy battalions are posted; at battalion level, enemy platoons are posted. However, higher enemy echelons may be posted on the workmap if this is the most detailed information available. The workmap, unlike the situation map, should be posted with both confirmed and unconfirmed enemy information. Information located on the map includes the following:

- a. Unit identification.
- b. Unit disposition.
- c. Boundaries.
- d. Locations of weapons, to include--
 - (1) Automatic weapons position.
 - (2) Supporting mortars.
 - (3) Antitank guns and missiles.
 - (4) Artillery positions.
 - (5) Armored vehicles.
 - (6) Antiaircraft automatic weapons positions.
 - (7) Air defense artillery and missile positions.
- e. Minefields.
- f. Roadblocks.
- g. Entrenchments.
- h. Other obstacles or defensive installations.
- i. Logistics and command facilities.
- j. Activities (movements, digging, camouflaging).
- k. Terrain data.

1. Aircraft/helicopter staging areas.
- m. CBR contaminated areas.
- n. Enemy radars and other ground surveillance devices.
- o. Major roads or trails used for the movement of personnel, weapons, and equipment.

4. Friendly information is usually limited to boundaries; locations of higher, lower, and adjacent units; reconnaissance units; and the forward edge of the battle area.

5. The use of separate overlays to display separate categories of enemy or friendly information is a useful technique. These separate overlays provide an accurate, easily used record of information that is not always required to be depicted on the map and might clutter it with unnecessary dated details. Example of these overlays are—

- a. Fortifications.
- b. Surveillance plans.
- c. Patrol plans.
- d. Impending chemical or nuclear strikes.
- e. Sensor fields.

6. When posting information on the map, standard military symbols as specified in FM 21-30, Military Symbols, must be used. When maps and overlays are posted with colored pencils or tape, the colors must be used in accordance with chapter 4 of FM 21-30.

7. The use of the workmap and the overlay techniques permits the intelligence section to keep an accurate record of information used to determine enemy movements and intentions and assists them in planning for the use of ground surveillance radar, patrols, and other intelligence collection operations. It allows a ready reference depicting the enemy situation and disposition and is used to support staff journal entries.

REFERENCES:

FM 21-30, Military Symbols
FM 30-5, Combat Intelligence

071-11B-5450

PREPARE INTELLIGENCE SUMMARY (INTSUM)

CONDITIONS:

As the intelligence sergeant, given information on the enemy situation in forward and rear areas, enemy operations and capabilities, weather and terrain, and a specific time period to be concerned with.

STANDARDS:

Prepare a clear and concise summary of the information, covering the specified time period, to be disseminated to higher, lower, and adjacent units.

PERFORMANCE MEASURES:

1. The INTSUM is a brief summary of information of intelligence interest covering a period of time designated by the commander. The length of the time period will vary with the desires of the commander. The INTSUM provides a summary of the enemy situation in forward and rear areas, enemy operations and capabilities, and weather and terrain characteristics. The INTSUM is an aid in assessing the current situation and updating other intelligence reports. Negative information will be included in the INTSUM but nonoperational information will be excluded. The INTSUM reflects the intelligence staff's interpretation and conclusions as to enemy capabilities and probable courses of action.

2. The INTSUM normally is prepared at brigade and higher echelons and is disseminated to higher, lower, and adjacent units.

3. An INTSUM has no prescribed format except that the word "INTSUM" will be the first item of the report. However, when involved in joint service operations, originators of INTSUMS will use the format prescribed in chapter V, JCS Publication 12. JCS Publication 12 is a classified document which is used during joint service exercises and operations. (Nonessential detail should be excluded from the INTSUM, but, as indicated by the example format, information concerning the issuing unit, date-time group (DTG) of issue, brief discussion of capabilities

and vulnerabilities, and conclusions must always be included.)
A type format and an example of an INTSUM are provided below.

4. Sample Format and Example INTSUM:

a. Format of an Intelligence Summary

Note: Omit items not applicable unless otherwise indicated.

1. Issuing unit (always included).
2. Time and date of issue (always included).
3. Summary of enemy activity for period.
 - a. Ground activity.
 - b. Trace of forward elements.
 - c. Potential targets for nuclear weapons.
 - d. Nuclear activity.
 - e. CB activity.
 - f. Air activity.
 - g. Other (new tactics, counterintelligence, etc.).
4. Enemy personnel and equipment losses.
 - a. Personnel (KIA).
 - b. Prisoners of war.
 - c. Equipment destroyed or captured.
5. New obstacles and barriers.
6. Administrative activities.
7. New identifications.
 - a. Units.
 - b. Personalities.
8. Enemy movements.
9. Estimates number and types of vehicles.
10. Weather and terrain conditions.
11. Brief discussion of capabilities and vulnerabilities (always included).

IMMEDIATE

TO CG 2D CORPS

INTSUM NUMBER 144 ENDI
040600 PARA 3 ALFA OPF
CONTINUED DEFENSE IN ZO
EXCEPT FOR LOCAL ATTACK
0415 VICINITY R376759 WI
ESTIMATED 90 MEN CMM 3 MEDI
TANKS CMM AND LIGHT ARTILLE
SUPPORT PD ATTACK REPULSED
PARA 3 DELTA ATTACK PRECED
AT 0410 BY VERY HIGH AIR BUF
NUCLEAR WEAPON CMM GROUND ZE
R374761 CMM DELIVERY MEA
UNDETERMINED CMM YH
ESTIMATED AT 0 PD 5 KT PD PA
3 FOXTROT ATTACK SUPPORTED
2 JET ATTACK AIRPLANES BOMB
AND STRAFING VICINITY R396-
FOR 5 MINUTES STARTING AT 0
PD PARA 4 ALFA CONFIRMED
KIA CMM ESTIMATED 5 KIA CMM
PARA 4 BRAVO 10 INCLUDING
WIA PD PARA 4 CHARLIE 2 MED
TANKS DESTROYED CMM 1 DAMA
CMM 1 JET ATTACK AIRCRAFT S
DOWN PD PARA 6 PRISONER STA
AMMUNITION SUPPLY IN FORW
UNITS RUNNING LOW PA
CHARLIE DASH 3 PAREN CHAR
DASH 3 PAREN PD PARA 7 A
PATROL REPORTS BATTERY 152
GUN-HOWITZERS AT R303292
PRISONERS CONFIRM LOCATION
BATTALION CMM 17F M
REGIMENT VICINITY R375
PAREN BRAVO DASH 1 PAREN P
8 AIRBORNE RADAR RECONNAIS-
SANCE DETECTED 10 TRU
MOVING SOUTH ON ROAD
R330280 AT 0345 PD PARA
PROBABLY ROUTINE SU
VEHICLES PD PARA 10 S
STARTED AT 040545

2. Conclusions (always included).

Examples of a Division INTSUM (full distribution not indicated) FM CG 52D INF DIV (MECH).

CONTINUING PD GROUND FROZEN HARD AND SUPPORTS ALL TYPES OF VEHICLES PD PARA 11 LOCAL ATTACK REPORTED PROBABLY WAS TO SEIZE HILL 405 PD ENEMY IS CAPABLE OF CONTINUING DEFENSE IN PRESENT POSITION CMM MAKING LOCAL ATTACKS TO IMPROVE HIS DEFENSIVE POSITION CMM DELAYING TO STRONGER POSITION ALONG LAURIEX RIVER PD PARA 12 CONTINUED DEFENSE IN PRESENT POSITION MOST PROBABLE.

NOTE: In joint service operations, the format in JCS Publication 12 will be followed.

REFERENCES:

130-5, Combat Intelligence
101-5, Staff Officers' Field Manual: Staff Organization and Procedure

071-11B-5470

PREPARE INTELLIGENCE COLLECTION PLAN

CONDITIONS:

Given a combat or simulated combat environment, your battalion mission, commander's guidance, and the collection assets available.

STANDARDS:

The collection plan must as a minimum specify:

1. The specific information desired.
2. The agencies tasked to obtain the desired information.
3. Necessary notes to indicate the progress of the collection effort.

PERFORMANCE MEASURES:

1. General:

a. The scope of the collection of information at brigade and battalion levels is greatly reduced as compared to that of higher echelons. However, the collection effort is a major task at any echelon and requires an organized and purposeful approach by the S2.

b. The S2 is rarely able to present to the commander and staff all the intelligence data they require at any given time without the necessity for collection of information. When the commander and staff are apprised of the intelligence reflected in the S2's current estimate, they normally have additional questions. These unanswered questions constitute the intelligence requirements of the command and provide the S2 with the basis for his collection planning.

c. The collection plan does not have a prescribed format. It can range from a fragmentary worksheet to a long, detailed plan. The type and makeup of the collection plan will depend upon the size of the unit, the mission, the situation, and the personalities concerned. At brigade or battalion levels,

because of the time and operational limitations, the collection plan must take the simplest form possible, consistent with operational necessity. It covers an entire operation and is continually revised as required. Regardless of what form of plan is chosen, it must be patterned to meet the S2 needs at any given time.

2. Preparation of the Collection Plan.

a. A collection plan includes the following:
(Explanation is keyed to fig. 1).

(1) The essential elements of information (EEI) and other intelligence requirements (OIR) are usually stated in question form. Example: Will the enemy attack? If so, when, where, and in what strength.

(2) The indications pertinent to the EEI and OIR. Example: Massing of mechanized elements, tanks, artillery, and logistical support.

(3) The specific information sought in connection with each indication. Example: Report by size and type unit, type of movement, and direction of traffic between the Red River and ridge vic RN 5046-5043.

(4) A listing of all available sources or collection agencies. Example: Bn OP, patrols, companies, etc.

(5) The place and time the information is to be reported if not specified in the unit SOP. Example: As observed.

(6) A remarks column to indicate the progress of the collection effort and notes for future actions.

b. Figure 1 is an example of a type collection worksheet. Remember that the collection plan is simply an orderly way to organize your collection effort and to insure that information is readily disseminated within the operations and intelligence sections. The plan will be supplemented as needed by workbook aerial and ground reconnaissance, and observation plans. The key is that the plan must be logical and thorough in collecting information, and it must suit the needs of the tactical situation. It must be prepared, maintained, and changed as needed in close coordination with the operations section.

REFERENCE:

FM 30-5, Combat Intelligence

[illegible]

Figure 1. Type collection worksheet.

071-11B-5472

PREPARE PATROL PLAN

CONDITIONS:

As an intelligence sergeant, given commander's planning guidance, essential elements of information (EEI), the current friendly and enemy situation, a situation map, the current ground surveillance plan (less the patrol plan), and a list of available patrolling assets to include personnel, time, and special equipment.

STANDARDS:

The plan must as a minimum:

1. Complement other elements of the ground surveillance plan so that the area of responsibility is effectively covered with the assets available.
2. Be coordinated with the S3.
3. Include a written or oral briefing for patrols stating the enemy situation and the specific information which the patrol is tasked to bring back.

PERFORMANCE MEASURES:

1. The S2's interest in patrol planning is in the gathering of combat intelligence. The patrol plan is one element of the ground surveillance plan. The patrol plan complements the other components of the ground surveillance plan. Thus, the patrol plan should be dovetailed into the ground surveillance radar plan, the use of OPs/LPs, unattended ground sensor support, and the employment of night observation devices. Patrols should also complement the aerial surveillance plan and should be carefully coordinated with other ongoing and planned tactical operations.
2. The patrol plan is based on the mission, the commander's planning guidance and the determination of specific EEI. Simply stated, you must determine what information you need to do your job. The information that you don't know will drive your collection effort. The S2's primary interest in patrolling is

to collect information or to confirm other information already gathered.

3. Patrol planning must be done in close coordination with the S3. If done effectively, centralized patrol planning will use the assets of the rifle companies and the recon/scout platoon and prevent wasted effort. The keynote should be to plan patrols geared to a specific purpose. Coordination with the S3 is important so that the information arrives in time to aid in planning other operations. On the other hand, patrols must not be sent out so early that the information gathered is outdated before the beginning of the operation which it was intended to support.

4. Whatever the purpose, whether route reconnaissance, prisoner snatch, or to gather or confirm information about enemy location, capabilities, or intentions, it is critical that patrols be given specific tasks. The patrol's job is made easier and the collection effort is enhanced by a thorough briefing prior to the patrol's departure. The patrol should be tasked with the most specific indicators that you can give the S3. Specific requests for information, whether it be collar insignia or soil samples from a river bottom, leave little room for individual interpretation or errors in analysis by the patrol. Do not forget that patrols may be usefully employed in a static surveillance role as well as in the usually used active role.

5. Patrols should be planned early enough to give the tasking unit time for its own necessary planning and preparation. This time will vary with the type and duration of the mission, the need for special equipment, and upon how accustomed the unit is to patrolling operations. Patrol planning should be accomplished with full knowledge of the capabilities and limitations of subordinate units being tasked.

6. Patrols should be tailored to the specific intelligence required. Don't for example, depend on a patrol leader with only light infantry experience to analyze a route for the trafficability of armored vehicles. Consider planning in coordination with the S3 for the attachment of any necessary personnel with special skills or qualifications. For example, a specific mission may require the use of linguists, guides, demolition specialists, pathfinders, or USAF combat control teams.

7. Integrate your patrol plan with the situation map. Using a patrol overlay with the situation map is a good way to put your collection effort together. Using the overlay technique will insure that your patrol plan complements other elements of the ground surveillance plan and is dovetailed into the plan.

for aerial surveillance and other combat operations. You will readily see gaps in coverage and be able to plan for multiple collection agencies to confirm each other and prevent unnecessary duplication of effort.

TYPE PATROL PLAN

DATE: _____

Patrol number	No 1	No 2	No 3
Unit assigned			
Task			
Type			
Size			
Route or zone			
Time of departure			
Time of return			
Location of check points			
Method of reporting			
Fire support plan			
Special equipment			

REFERENCES:

21 — 75
 0-5, Combat Intelligence
 Le 5 son 941-071-0049-F, Patrolling--Reconnaissance Patrol

071-11B-5473

DEBRIEF PATROL

CONDITIONS:

As an intelligence sergeant, given a patrol just returned from an operation, a copy of the patrol report format, and knowledge of the special intelligence requirements with which the patrol was tasked.

STANDARDS:

1. Insure that the debriefing is conducted as soon as possible after the patrol returns to friendly lines.
2. Insure that all squad members are present for the debriefing.
3. Prepare the standard Patrol Report (STANAG 2003) during the debriefing.

PERFORMANCE MEASURES:

1. All patrols should be debriefed as soon as possible upon their return to friendly positions. Whenever possible, the S2 or the intelligence sergeant should either conduct the debriefing or at least be present for the debriefing conducted by a platoon leader or company commander. Early debriefings insure that maximum information can be gleaned while still fresh in the minds of the patrol members.
2. The standard patrol report (fig. 1) should be filled out on the conclusion of a patrol and can also be used as a guide for the verbal debriefing. Time and effort can be saved by a thorough briefing using a copy of the patrol report, as shown in Figure 1, before the patrol departs on its mission. The point is to explain exactly what items of information are needed. When this is done, the patrol is alerted to bring back specifics rather than broad generalizations or impressions. This is further facilitated in patrol planning by forming specific intelligence requirements. The patrol leader may be required to fill out the patrol report himself. This is most likely to happen when heavy patrolling activity is going on throughout the unit. A more satisfactory and timely product results in most

PATROL REPORT					
(OMIT HEADING(S) NOT APPLICABLE)					
(DESIGNATION OF PATROL)	(DATE)				
TO:					
MAPS:					
A. SIZE AND COMPOSITION OF PATROL	(DESCRIPTION OF THE TERRAIN-DRY, SWAMPY, JUNGLE, THICKLY WOODED, HIGH BRUSH, ROCKY, DEEPNESS OF RAVINES AND DRAWS; CONDITION OF BRIDGES AS TO TYPE, SIZE AND STRENGTH; EFFECT ON ARMOR AND WHEELED VEHICLES.) (STRENGTH, DISPOSITION, CONDITION OF DEFENSE, EQUIPMENT, WEAPONS, ATTITUDE, MORALE, EXACT LOCATION MOVEMENTS AND ANY SHIFT IN DISPOSITION. TIME ACTIVITY WAS OBSERVED; COORDINATES WHERE ACTIVITY OCCURRED.)				
B. MISSION					
C. TIME OF DEPARTURE					
D. TIME OF RETURN					
E. ROUTES (OUT AND BACK)					
F. TERRAIN	(INCLUDING ASPECTS OF NUCLEAR, BIOLOGICAL AND CHEMICAL WARFARE.)				
G. ENEMY					
H. ANY MAP CORRECTIONS	(ENEMY PRISONERS AND DISPOSITION; IDENTIFICATIONS; ENEMY CASUALTIES; CAPTURED DOCUMENTS AND EQUIPMENT.)				
J. MISCELLANEOUS INFORMATION					
K. RESULTS OF ENCOUNTERS WITH ENEMY	(INCLUDING TO WHAT EXTENT THE TASK WAS ACCOMPLISHED AND RECOMMENDATIONS AS TO PATROL EQUIPMENT AND TACTICS.)				
L. CONDITION OF PATROL INCLUDING DEPOSITION OF ANY DEAD OR WOUNDED					
M. CONCLUSIONS AND RECOMMENDATIONS					
<table border="0"> <tr> <td>SIGNATURE</td> <td>GRADE/RANK</td> <td>ORGANIZATION/UNIT OF PATROL LEADER</td> </tr> </table>			SIGNATURE	GRADE/RANK	ORGANIZATION/UNIT OF PATROL LEADER
SIGNATURE	GRADE/RANK	ORGANIZATION/UNIT OF PATROL LEADER			
N. ADDITIONAL REMARKS BY INTERROGATOR					
<table border="0"> <tr> <td>SIGNATURE</td> <td>GRADE/RANK</td> <td>ORGANIZATION/UNIT OF INTERROGATOR TIME</td> </tr> </table>			SIGNATURE	GRADE/RANK	ORGANIZATION/UNIT OF INTERROGATOR TIME
SIGNATURE	GRADE/RANK	ORGANIZATION/UNIT OF INTERROGATOR TIME			
O. DISTRIBUTION					

Figure 1. Patrol report form.

cases, however, when the written report is prepared by the debriefer. The debriefer could be the S2, the S2 sergeant, a platoon leader, a company commander, or his executive officer.

3. Insure that the debriefing procedure and the manner of completing the patrol report are made a matter of unit SOP. Soldiers and leaders should know exactly what to expect. You should aggressively go to the units to collect information and personally conduct debriefings whenever possible. Obviously, the time will come when activity is so heavy that it is impossible to do this. The key then is to preplan for this contingency and insure that company commanders and platoon leaders have been trained in basic intelligence skills and are capable of conducting effective debriefings.

4. Insure debriefings are conducted with all patrol members present, if at all possible. When all members are present, the individuals's view of events can be easily expanded and the individual's memory stimulated by other observations. Maintain an informal and informative atmosphere to aid an easy flow of information. Don't proceed like an interrogator with a hostile prisoner.

5. The patrol report together with the specific intelligence requirements given the patrol should guide your debriefing. It is neither necessary nor desirable, however, to rigidly follow the format. Modify the sequence to suit your questioning technique and the information needed. Insure that you have carefully thought out and formed specific questions before the debriefing begins. You must, however, be capable of effective interaction with the soldiers being debriefed and depart from your planned procedure to pursue a new line of information that develops in the course of the debriefing. When available, a tape recorder is a useful tool to put together the patrol report and to analyze the patrol's comments later.

RENCES:

21-75

Lesson 941-071-0049-F, Patrolling--Reconnaissance Patrol

071-332-5001

PREPARE, ASSEMBLE, AND DISTRIBUTE AN
OPERATION PLAN/OPERATION ORDER/ANNEX

DITIONS:

During battalion combat operations, CPX, FTX, or peacetime contingency, given all items of information necessary for a basic five-paragraph operation order and selected annexes, appendixes, and tabs; classification of annexes/appendixes and items of information; name of S3 and commander; downgrading instructions for classified items; oral instructions (including time available) from the commander/S3; pencil or typewriter; paper, chapter 1 and annexes D and F, FM 101-5, Staff Officer's Field Manual, Staff Organization, and Procedure.

DARDS:

1. Within the time specified by the commander's guidance, items must be correctly sequenced into the basic five-paragraph operation order.

2. Annexes and appendixes must be properly labeled and sequenced.

3. The operation order/operation plan:

a. Must follow format specified in FM 101-5, Staff Officer's Field Manual, Staff Organization, and Procedure.

b. Must possess correct classification and downgrading instructions.

c. Must be properly authenticated.

d. Must contain correct distribution instructions.

e. Must be completed and distributed in time to allow the accomplishment of the mission.

ORMANCE MEASURES:

1. Operation Orders. Written operation orders or plans always follow a prescribed format which contains a

classification, heading, body, and ending as outlined in figure 4. The elements of the format are discussed in subsequent paragraphs.

a. Classification. Operation orders or plans are classified in accordance with appropriate regulations. For training purposes, when there is not actual classification, the word "Classification," enclosed in parentheses and underlined, is shown at the top and bottom of each page of the order to confirm that the classification was not inadvertently omitted.

OPERATION ORDER/PLAN FORMAT
(Based on STANAG 2014, 3d Edition)

H
E
A
D
I
N
G

(Classification)
 (Changes from oral orders)

Copy No. ____ of ____ cop
 Issuing headquarters
 Location of CP
 Date/Time Group
 Message Reference No.

OPORD No./OPLAN No. (Code Name)

Reference:

Time Zone Used Throughout the Order:

Figure 1. Heading of OPORD.

b. Heading.

(1) Reference to oral orders. A reference to oral orders is made whenever oral orders have previously been issued for an operation, and the written order is published to either confirm or change the oral order. If there was no oral order, no statement is made. In the case of no change, the statement will appear as "(No change from oral orders)." If there is

change, a statement such as "(No change from oral orders, except paragraphs 1c, 3b, c, and e)" will be used. Entries of this type are always enclosed in parentheses.

(2) Copy No. _____ of _____ copies. The issuing headquarters assigns a copy number to each copy of a written order (or plan). A record is maintained, showing the number of the specific copy(s) issued to each addressee. The copy number is entered by hand when the copies are ready for distribution (also see para 6 below).

(3) Issuing headquarters. The official designation of the organization issuing the order is always shown; e.g., "1st Bn, 66th Inf," or "TF2-76," etc.

(4) Location of CP. The location (CP location) of the headquarters issuing the order is identified by coordinates (lettered prefix followed by a six-digit grid coordinate). The name of the town or place will normally be included (if applicable) and the name of the country may be included. Example: "NA698432 (BITBURG, GERMANY)."

(5) Date-time group. The date-time group consists of six digits, followed by the time zone designator, month, and year. Example: "061030R Sep 80." The date-time group is the date and time the order is effective, unless otherwise stated in "Coordinating Instructions." Furthermore, it is the date-time attachments and detachments are effective, unless otherwise stated in "Task Organization"; paragraph 1c, "Attachments and Detachments"; or paragraph 3, "Coordinating Instructions."

(6) Message reference number. The message reference number consists of letters or numbers, or a combination of letters and numbers, which permit the order to be acknowledged in the clear, using the message reference number. These letters and/or numbers should in no way refer to the fact that it is connected with an OPORD. Therefore, it is not advisable to have any continuity or similarity between the message reference numbers of successive orders nor should there be any association with any numbering system used by the unit message center in its distribution. The message reference number may be assigned by the S3, or a block of reference numbers may be assigned by higher headquarters, normally as part of the CEOI. All annexes and appendixes issued at the same time as the basic order and having the same distribution will bear the same message reference number as the basic order. Annexes and appendixes not issued at the same time as the basic order or having a different distribution will contain a message reference number different from the basic order. Examples of possible message references are: "BQR, 4826" or "RF28." Acknowledgement may be made as follows: "This is R26. I acknowledge BQR, over."

(7) Title and number of orders or plans.

(a) Operation orders of an organization are numbered consecutively during the period of a calendar year. If two or more are issued on the same day, they are given consecutive numbers; e.g., OPORD 24, OPORD 25, etc.

(b) Plans. Operation plans are normally numbered consecutively during the calendar year and assigned a code name. When executed, the order of execution will specify the operation order number; e.g., "OPLAN 3 (COBRA) is OPORD 5 effective 070800R July." Normally, the time of execution or H-hour would also be specified.

(8) Reference. The reference designates the map, sketch, or aerial photograph required for the operation. The country or geographical area, the map series, the scale, the name or number of sheets, and edition number are given in sufficient detail to identify the exact reference used in preparation of the order. EXAMPLE: Reference Map, POLAND, Series M550, 1:50,000 PIESDA Sheet (7062), Edition I.

(9) Time zone used throughout the order. This item is always listed. The time zone letter designator is spelled out in capital letters; e.g., "ROMEO." The time zone letter designator need not be repeated in the body and ending of the operation order.

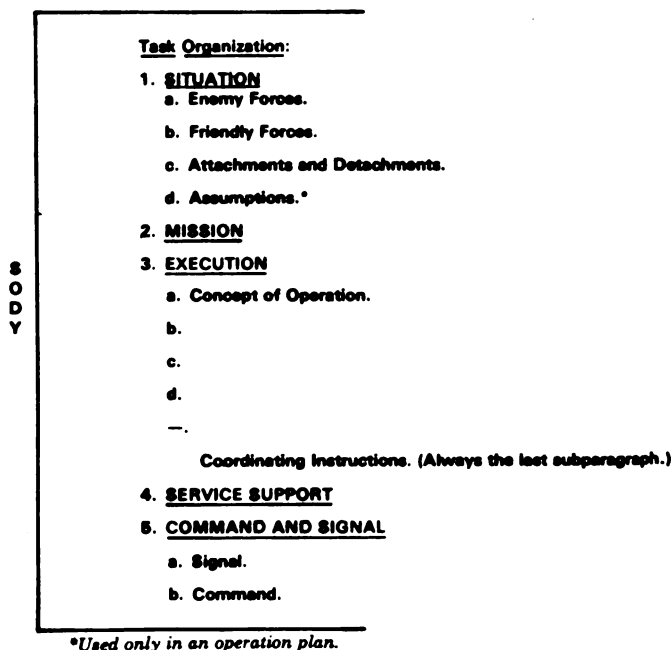


Figure 2. Body of OPORD.

c. Body. The body consists of the task organization and five main paragraphs with each given a heading. These headings are written in capital letters. All major subparagraphs are also given headings.

(1) Task organization. The task organization indicates the tactical groupings resulting from the commander's internal organization for combat, the command relationship among the various tactical components, and the names or titles assigned to these groups, when applicable.

Example brigade task organization: (1st Bde, 57th Inf Div (Mech))

Task Org:

TF 2-79	TF 2-80	2-81 MECH
2-79(-)	2-80(-)	
B/2-6 Armor	C/2-6 Armor	
1/C/2-23 Cav (OPCON)	2/C/57 Engr (DS)	
1/C/57 Engr (DS)		
TF ATLAS	Bde Con	
2-6 Armor(-)	C/2-23 Cav(-) (OPCON)	
A/2-79	7-52 FA (DS)	
C/2-80	B/157 Avn Bn (OPCON)	
	C/57 Engr (DS)	

(a) Tactical groupings. The tactical groupings resulting from the commander's reinforcing, cross-attaching, and internal reorganizing are listed to reflect the initial organization for the conduct of a specific operation. The major subordinate units of the force issuing the order are normally listed alphabetically or numerically, depending on the level—battalion or brigade—in the same sequence established for paragraph 3: Largest command headquarters, infantry, infantry (mech), airmobile infantry, airborne infantry, and armor. A control paragraph will also be shown as appropriate: "Bde Con" or "TF Con." Generally, only the combat and combat support elements are shown in the task organization at brigade and battalion level.

(b) Command relationships. Organic, attached, operational control (OPCON) and supporting units are indicated in the task organization as follows:

1. Organic or attached elements are listed without any parenthetical expression. Identification of attached elements is indented and listed under the unit to which they are attached. A detachment of a major subordinate element is indicated by the use of a minus sign (-). Organic or attached elements may be shown further attached, OPCON, or in support of subordinate elements.

2. Operational control elements are indicated with a parenthetical expression (OPCON). OPCON units may further be shown OPCON or in support of subordinate elements.

3. Only supporting units that have been directed by higher headquarters to provide DS to the unit headquarters issuing the order (issuing unit) or that have been further directed to provide DS to subordinate elements of the issuing unit are shown in the task organization at battalion level. Supporting units providing GS and artillery units providing reinforcing and GS-reinforcing fires are not shown in the task organization. Reinforcing and GS-reinforcing artillery units will be placed in paragraph 1b, "Friendly Forces," of the operation order/plan. Units providing DS will be qualified with a parenthetical term "(DS)" which denotes a command relationship of support between the supported and the DS unit and the degree of support that will be provided. The term "(DS)" in task organization does not denote a mission assignment to the supporting unit; mission assignment will be made in the next higher headquarters order and may be included in the appropriate annex to the issuing unit order/plan; e.g., engineer, fire support, barrier, etc. However, a supporting unit which is to provide DS will not be given a separate subparagraph in paragraph 3 of the issuing unit because these units remain under command of their parent units.

Example:

Task Org: (2d Bn, 76 Inf (Mech))

A/2-76(-)
AT Sec

C/2-76

TF Con
A/A/52 Engr (DS)

B/2-76

TM ARMOR
A/2-4 Armor
1/A/2-76

(c) Names, titles and/or designations.

1. Names, titles, and/or designations which are assigned to task forces/teams and are to be used during an operation are indicated in the task organization. To insure accuracy, the unit designations in the task organization are somewhat more precise than those required throughout the remainder of the order. Names or titles assigned to task forces/teams are used throughout the order; however, alphabetical or numerical designations of units may be abbreviated when used elsewhere in the order.

Example: (2d Bn, 76 Inf (Mech))

TM ALPHA	TM STRIKE	C/2-76(-)
A/2-76(-)	B/2-76	
1/C/2-4 Armor	2/C/2-4 Armor	
TM CLAW	TF Con	
C/2-4 Armor(-)		
3/A/2-76		
1/C/2-76		

NOTE: In the example above, 2-4 Armor is identified by branch, whereas 2-76 Mech is not. This is done to preclude misunderstanding about the branch/type/capability of nonorganic units.

2. If desired, the rank and name of a task force/team commander may be shown parenthetically following the title. This is not a common practice and is generally restricted to a task force/team comprising more than one major subordinate maneuver element, where a question would arise regarding identification of the commander; e.g., a task force comprising two battalions and commanded by a brigade XO.

(d) Considerations for task organization.

1. When the issuing headquarters (supported unit) establishes a further command relationship, it is indicated in the task organization. The supported commander cannot assign a command relationship which is more restrictive

than that are received from higher headquarters; e.g., a unit in DS cannot further be attached or placed under OPCON.

2. Organic units performing normal support/security missions (i.e., headquarters and headquarters company, combat support company, and subordinate elements such as the scout platoon, recon platoon, heavy mortar platoon, Redeye section, aviation section, and organic combat service support elements) are not included in the task organization unless elements of these units are further attached or placed in DS of subordinate units or detached from the issuing headquarters. In this case, they may be listed for the purpose of accounting for forces. Omission of these units from the task organization implies that they are performing their normal role. This will normally be the case. In the event these type units are performing a unique mission (combat) directly under battalion/TF control, they may be shown in task organization.

3. The use of "(-)" in the task organization indicates that a unit has detached one or more of its major subordinate elements. The use of "(-)" in the task organization also denotes that a unit under OPCON of one headquarters has placed one or more of its subordinate elements under OPCON of another headquarters. The detached or OPCON element would then be shown in an attached or OPCON status under another unit within the task organization or listed in paragraph 1c, "Attachments and Detachments," if detached from the headquarters issuing the order. Similarly, since attached and OPCON units are listed under their control headquarters, the use of "(+)" is not necessary.

4. When the task organization is lengthy and complex, it may be appended as an annex and referenced in the "Task Organization" of the order.

5. It is not necessary to repeat task organization matters already known by subordinates. When minor adjustments (not more than two) to the present task organization are involved, only the changes themselves need be specified. For example, if the only change to the existing task organization for the operation is detaching the 1st Platoon from A/2-4 Armor and attaching it to A/2-76(-), thus forming a company team which will be named "TM ALPHA," the task organization may be shown as follows:

Example:

Task Org: No change, except 1/A/2-4 Armor attached to A/2-76(-) (Tm ALPHA).

(2) Situation. Paragraph 1 of the operation order has three subparagraphs which are entitled "Enemy Forces," "Friendly Forces," and "Attachments and Detachments." In operations plans a fourth subparagraph, entitled "Assumptions," is added. Paragraph 1 gives a brief description of the general situation so that subordinate commanders will understand the current situation. It is devoted exclusively to information and contains no orders.

(a) Paragraph 1a, "Enemy Forces."

1. Paragraph 1a contains information of the enemy necessary for the accomplishment of the mission or consists of a reference to the method and/or document in which the information was disseminated. Normally, the S2 will, as a matter of routine, provide such information to subordinates by means of an intelligence summary (INTSUM), rather than wait until an OPOD is published. When an order is published, if subordinates have already received the enemy information pertinent to the operation, paragraph 1a consists of a reference to the method and/or document in which the information was disseminated. Since an INTSUM is normally prepared at regular intervals or as prescribed by unit SOP, and because it is desired that the recipient of an OPOD keep abreast of the current enemy situation as portrayed in each new INTSUM, reference to a specific INTSUM by number is generally avoided, and the phrase "Current INTSUM" is used.

2. When the information of the enemy which is to be included in the order is lengthy, it may be appended as an Intelligence Annex. Reference can be made to the annex and INTSUM in paragraph 1a.

3. When it is desirable or necessary to include information of the enemy in the order, this information is given in the following sequence:

a. Items pertaining to the enemy situation (composition, disposition, location, movement, morale, strength, status of supply).

b. Enemy capabilities.

c. Enemy's most probable course(s) of action.

(b) Paragraph 1b, "Friendly Forces." Paragraph 1b contains information concerning missions of higher, adjacent, supporting, and reinforcing units. Information should be limited to that which the subordinate commanders need to know to

accomplish their assigned missions. These units are listed in the following sequence:

1. Higher unit (as a minimum, the mission for the next higher unit).

2. Adjacent units (listed in sequence: left, right, front, rear, as applicable).

3. Supporting/reinforcing units (FA, ADA, others in any order).

4. Since units providing DS to the issuing headquarters are listed in the task organization, they need not be repeated in paragraph 1b. One of the purposes of paragraph 1b is to portray those units which are providing support or reinforcement which is in addition to the support that is normally present. Units which are reinforcing or GS-reinforcing are listed in paragraph 1b. It would also be appropriate to list units which are in DS of the next higher headquarters. For example, artillery and engineer units in DS of a brigade provide a support advantage to the maneuver battalions attached to the brigade which is above the normal degree of support available, and, consequently, they would be listed in paragraph 1b of the battalion's operation orders. Organic divisional support units normally employed in GS of the division are not mentioned at brigade and lower levels since their employment in this role provides no unusual, distinct support advantage to brigades and subordinate commands.

(c) Paragraph 1c, "Attachments and Detachments." This paragraph contains lists of those units attached to or detached from the issuing unit for the operation concerned, to include any existing attachments remaining in effect. The effective time of the attachment or detachment is indicated when it is other than the time indicated in the heading of the order or in the task organization. When all attachments and detachments are clearly depicted in the task organization, this subparagraph will only make reference to "Task Organization." Reference to the task organization and a listing of an attachment and/or detachment may be combined if the attachment/detachment is occurring at a time which preclude convenient inclusion in the task organization.

Example:

c. Attachments and Detachments.

(1) Task Organization.

(2) 1-1 Armor attached effective 161000 Nov.

(3) B/1-21 Cav released from attachment effective 161800 Nov.

(4) 1-68 Inf detached to 2d Bde effective 1708000 Nov.

(d) Paragraph 1d, "Assumptions." An operation plan will always contain assumptions. These are the commander's assumptions and are used as a basis for developing the plan. For example, a counterattack plan would include an assumed penetration. The assumed penetration is normally shown graphically or stated in paragraph 1d along with other assumptions establishing conditions upon which the plan is based.

When information normally listed in paragraph 1 is known by subordinates, it is unnecessary to repeat these items. Only reference to changes or confirmation to items that remain unchanged should be made.

Example:

1. SITUATION

a. Enemy Forces: Annex A (Intelligence).

b. Friendly Forces:

(1) 1st Bde attacks 070600 Dec to seize high ground vic BONN (NA6740); prep to continue attack east.

(2) 2-77 Mech attacks 070600 Dec to seize high ground vic HILL 1124 (NA6643); prep to continue attack east.

(3) 2-23 Cav screens bde south flank from NA624390 to NA673387.

(4) 7-50 FA DS 1st Bde.

(5) 7-53 FA GSR to 7-50 FA.

(6) Tac air and engr spt. No change.

c. Attachments and Detachments: Task Org.

NOTE: This example depicts that the tac air and engineer support are the same as for the preceding operation and this information is known by subordinates.
--

(3) Mission. Paragraph 2, the mission, is a clear, concise statement normally containing the WHO, WHAT, WHEN, and, as appropriate, the WHY and WHERE as taken from the higher headquarters order or as deduced by the commander and restated in his planning guidance to his staff. The HOW (unit or units making the main attack, formation, and other amplifications) more properly belongs in paragraph 3a, "Concept of Operation." The mission is stated in full, even if shown on the operation overlay; it must be able to stand alone without reliance on an overlay or schematic and will make no reference to "objectives." Paragraph 2 never has subparagraphs.

Example:

Mission:

1st Bde attacks 100600 Mar to seize high ground vicinity HILLS 972(NA7642)-1025(NA7943); prepare to continue the attack north.

NOTE: The WHY in the defense mission statement is normally inferred by the WHAT; i.e., to retain or defend the high ground, key terrain, or areas specified by the coordinates.

(4) Execution. Paragraph 3 contains the concept of operation, missions, and tasks for each element of the command (organic, attached, or under OPCON) which will execute a tactical role in carrying out the unit's mission and coordination instructions pertaining to the conduct of the operation.

(a) Paragraph 3a, "Concept of Operation." This paragraph states in brief the commander's tactical plan. It describes the scheme of maneuver and plan of fire support including nuclear fires, if applicable (as taken from the commander's decision and concept to his staff or as developed during staff planning). Although brief, this subparagraph is stated in sufficient detail to insure appropriate action by subordinates in the absence of specific instructions.

(b) Paragraph 3a may be divided into two subparagraphs: (1) describing the scheme of maneuver, and (2) covering the plan of fire support. Further, when it is concluded that the operation is to be executed in two or more distinct phases, the "Concept of Operation" will be prepared in subparagraphs describing each phase. Each phase is designated

e.g., Phase I, Phase II, etc. The requirement for dividing paragraph 3a is determined by the S3 upon considering the details and complexity of the operation and the need for clarity.

(c) The scheme of maneuver portion of paragraph 3a contains statements of the placement and movement of major maneuver elements and provides principal missions to each of these elements. In essence, it is the commander's decision (from his estimate of the situation), modified as necessary by appropriate reference to its graphic portrayal on the operation overlay (if applicable).

(d) In an attack OPORD, the scheme of maneuver portion specifies the elements making the main and supporting attack (when the commander has designated a main and supporting attack), assigns objectives to the attacking elements, and designates the element(s) in reserve, to include its primary mission.

(e) In a defense OPORD, the scheme of maneuver portion specifies the units occupying the FEBA (left to right) and designates the reserve and the position(s) to be occupied by the reserve.

(f) The fire support portion of paragraph 3a contains a brief summary of the fire support which will complement the scheme of maneuver. It will include, as applicable, the following items: Nuclear rounds assigned to complement the scheme of maneuver, held in reserve or on call, shown by number, type, yield, target, time, and duration, as applicable; nonnuclear preparation starting time and duration (attack); allocation of final protective fires (FPF) (defense); priority of fires; special fires (e.g., chemical, smoke, etc.); tactical air support; and reference to the fire support annex.

NOTE: Reference will be made to appropriate annexes that are to be distributed to subordinate units. Annexes will be referred to in the body of the order at the first place that the subordinate commanders need be made aware of their existence. An operation overlay and fire support annex, when issued, are two annexes normally referred to in the concept of operation of a written operation order. Reference to the operation overlay will be placed on the same line and immediately following "Concept of Operation." Reference to the fire support annex will be the last item within the concept of operation paragraph.

(g) Task assignments to security forces are written using the imperative to "screen," "guard," "cover," or "provide rear area security." Since missions to security forces cannot be clearly described graphically, they must be stated in the written portion of the order.

(h) The sequence of listing units in paragraph is indicated below. Within each major branch grouping (Infantry, Armor, and Artillery), units are placed in order first by size (battalions, companies, platoons), then, within like-size units, by numerical or alphabetical designation, as applicable. Task forces and teams are listed by reference to their official numerical/alphabetical designation although their temporary name/title is used.

1. Largest command headquarters/combined arms command. For example, if a task force comprises two or more battalion (company) size units and is under command of the XO—constituting a higher level headquarters than a battalion (company)—it would be listed first. The size of the headquarters is the determining factor, not the number of maneuver elements subordinate to the headquarters.

Infantry units.

Armor units. List tank units first, then cavalry units.

Reconnaissance/scout platoon.

Heavy mortar platoon.

Antitank platoon.

Redeye section.

2. Any other units performing a straight combat mission, listed in alphabetical sequence by branch. (For example, an engineer platoon with a combat mission, rather than its normal support mission.)

3. Artillery units. List field artillery units first, then air defense artillery units.

4. Other elements providing combat support listed in alphabetical sequence by branch. (For example, aviation or engineer.)

(i) Those units indicated above which are not in a specific unit's task organization are simply omitted from the sequence. For example, recon/scout platoon, heavy mortar platoon, Redeye section, and AT platoon are rarely found at brigade level; therefore, they are omitted from the sequence of units at that level.

(j) Headquarters and headquarters company/combat support company and their subordinate elements, such as communications platoon, ground surveillance section (battalion), aviation section (brigade), and combat service support elements, are not assigned a mission subparagraph unless elements of these units are given a special tactical mission.

(k) Combat support company would appear in battalion/TF task organization if the combat support company headquarters were used as a tactical control headquarters and assigned a specific tactical mission, to include contingency missions. Under these circumstances, combat support company would also be assigned a subparagraph within paragraph 3 and would be listed in sequence after all lettered infantry companies but before any infantry platoons that might be operating under battalion/TF control.

(l) The final subparagraph of paragraph 3 is entitled, "Coordinating Instructions," and contains tactical instructions and details of coordination (other than signal items) applicable to two or more elements of the command. When there are no coordinating instructions, the word "None" will be placed after the heading. Coordinating instructions may include:

1. Essential elements of information (brigade and higher levels) or specific orders for information (normally battalion and lower levels) of an intelligence nature.

NOTE: The order is only one method the S2 uses to disseminate EEI (brigade and higher) or orders for information (battalion). Absence of these items in the order does not mean the S2 is not disseminating this information.

2. Any counterintelligence measures not a matter of SOP (except signal counterintelligence).

3. Restrictions on the use of nuclear weapons.

4. Troop safety instructions, if different from SOP; e.g., operation/exposure guide (OEG).

5. Effective time of attachment or detachment of units within the issuing headquarters organization, when such times are different from the effective time of the order and are not included in the task organization.

6. References to annexes not mentioned elsewhere in the body of the order.

7. Time, date, or condition when the order or plan becomes effective, if the order or plan is not effective on receipt. For example, in OPLANs, the subparagraph would include the phrase: "Effective for planning upon receipt; for execution on order."

8. Reference to nuclear allocation in the Nuclear Fire Support Appendix to the Fire Support Annex when necessary for clarity (brigade or higher levels only).

(5) Service Support. Combat service support procedures at brigade and battalion are usually routine and covered by SOP. Therefore, an administrative/logistics order is normally not required. Since the division's administrative/logistics orders are distributed down only to brigade level, reference to this in paragraph 4 of a brigade order will normally suffice. At brigade and battalion levels pertinent information on current and projected locations of administrative and logistical installations and facilities will normally be shown graphically on the operation overlay. Other administrative or logistical information may be disseminated by means other than an OPORD; therefore, paragraph 4 of the OPORD at this level generally does not contain lengthy administrative or logistical instructions. When required by the nature of the operation and details involved, paragraph 4 may contain subparagraphs as necessary, following the sequence (including paragraph headings) corresponding to the administrative/logistical order.

(6) Command and signal. Paragraph 5 contains two subparagraphs, "Signal" and "Command," in that sequence.

(a) Paragraph 5a should contain, as a minimum, the index of the effective Communications-Electronics Operations Instructions (CEOI) to be in effect. Any special instructions relating to signal communications, such as instructions on the use of radios or pyrotechnics, or restrictions on the employment of any means of communications, should be placed in the subparagraph.

(b) Paragraph 5b will include the location of the CP of the issuing unit (if not shown graphically) and the

location of the command group; e.g., "Cdr will follow the main attack," or "Cdr will be located at OP#1." It may include instructions to select and report locations of CPs of the subordinate units and the location of the CP of the next higher headquarters. Designation of an alternate CP may be entered in this paragraph if it is different than stated in the SOP.

d. Ending. The ending of the order consists of the acknowledgement instructions, signature of the commander, authentication (when required), list of annexes (if any), and the distribution listing.

Acknowledgement Instructions:

Commander's Last Name
Commander's Rank

Authentication: **

Annexes:

Distribution:

(Classification)

***Used only when applicable.*

Figure 3. Ending of OPORD.

(1) Acknowledgement instructions. These instructions are placed under the final subparagraph of the body. They have no paragraph designation (number or letter); they stand by themselves. They may contain detailed acknowledgement instructions or simply the word "Acknowledge." Acknowledgement is rendered using the message reference number (see paragraph 4b(6)), unless otherwise directed. Acknowledgement of the order means that the order has been received and understood.

(2) Signature of commander. The original copy (No. 1) of a written order will bear the commander's signature (last name only), or that of his designated representative (which is the S3/G3), written above the printed or typed last name (with or without initials) and rank. This copy is retained in the unit files as a matter of record.

(3) Authentication. Although the commander's signature block (as specified above) appears on all copies, his designated representative would sign in the same manner under the word "Official"; that is, over his last name and rank (no initials are used). The commander's signature, or his representative's, permits automatic reproduction of the order (or annex issued separately). If the commander's signature is used only on the original, the S3's signature is required on all subsequent copies.

2. Annexes. Annexes are those supporting documents attached to the order/plan, or distributed at a later time, to amplify and supplement the instructions in the order/plan. All annexes to operation orders/plans that are to be distributed are listed by letter and title. When there is only one annex listed, the word "Annex" is used. When the annex is to be issued later, the parenthetical phrase "to be issued" should follow the title of the annex. If there are no annexes, this term will be omitted.

a. Annexes that have a wider distribution than the basic order, or are to be issued separately from the basic order, must have suitable identification with respect to the basic order and bear the same heading and ending as the basic order except for the title of the annex and the message reference number (fig. 4).

b. Annexes are issued to all units or agencies whose actions are affected by information or instructions contained in them. Detailed information included in an annex need not be covered in the order. As previously noted, each annex should be mentioned the first place in the body of the order where it is desired to call subordinates' attention to the information contained in the annex. An example of an annex is shown in figure 5.

OPERATION ORDER/PLAN FORMAT
(Based on STANAG 2014, 3d Edition)

E X A M P L E O F C O M P L E T E O P O R D / P L A N	<u>(Classification)</u>	
	(Changes from oral orders)	
		Copy No. of copies Issuing Headquarters Location of CP Date/Time Group Message Reference No.
	HEAD ING	OPORD No./OPLAN No. (Code Name) Reference: Time Zone Used Throughout the Order:
	B O D Y	
	Task Organization: 1. SITUATION a. Enemy Forces. b. Friendly Forces. c. Attachments and Detachments. d. Assumptions.* 2. MISSION 3. EXECUTION a. Concept of Operation. b. c. d. — Coordinating Instructions. (Always the last subparagraph.) 4. SERVICE SUPPORT 5. COMMAND AND SIGNAL a. Signal. b. Command	
E N D I N G	Acknowledgement Instructions. Authentication: ** Annexes: Distribution:	Commander's Last Name Commander's Rank

(Classification)

*Used only in an operation plan.

**Used only when applicable.

Figure 4. Example of complete OPORD/PLAN.

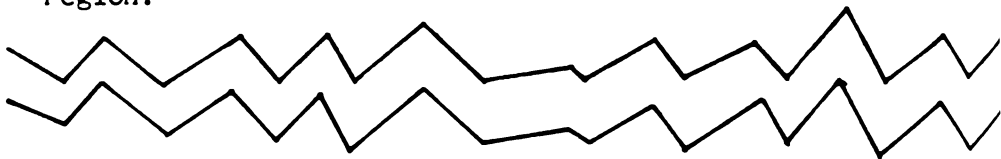
(Classification)

Annex B (INTELLIGENCE) to OPLAN 6-78 (FLYING TIGER)

References: Maps: JOG, Series 1501, Edition 1, Sheet NJ (G) 51-8; Edition 2, Sheets NJ (G) 51-4, NJ (G) 51-1, NJ (G) 52-5, Scale 1:250,000; Map Series L572, Edition 1, Sheets 2823I, 2824II, 2825III, 2923I, 2923IX, 2924I, 2924II, 2924III, 2924IV, 2925II, 2925III, 3023I, 3023IV, 3024I, 3024II, 3024III, 3024IV, 3025III, Scale 1:50,000.

Time Zone Used Throughout the Plan: SIERRA.

1. SUMMARY OF ENEMY SITUATION Appendix 1 (Situation Overlay). On 6 June, the Chosonians launched a full-scale coordinated attack against Samil with an estimated six rifle divisions and two tank divisions. The surprise attack was extremely successful, especially in the eastern mountainous region.



7. REPORTS AND DISTRIBUTION All elements will submit special intelligence reports, per SOP, to the next higher headquarters when contact with the enemy forces has been made and/or when information of intelligence value becomes available.

8. MISCELLANEOUS INSTRUCTIONS. None.*

Appendixes: 1 - Situation Overlay (omitted for this figure)
2 - Aerial Reconnaissance and Surveillance (omitted for this figure)
3 - Essential Elements of Friendly Information (omitted for this figure)

*If there are none, this paragraph should be omitted.

(Classification)

Figure 5. Example of an Annex which accompanies the OPLAN.

c. Maps, sketches, or overlays frequently are used as annexes. When the written portion of a plan or order is placed directly on a map or overlay, the map or overlay then becomes the plan or order itself and is not an annex.

3. Distribution. This indicates to whom the order is distributed. Frequently, use of a distribution code, as established by the unit SOP, will be sufficient. A combination of a distribution code and listing of units not included by the code may be used. STANAG 2014, 3d Edition, states, "when orders are to be distributed either to a unit of a nationality other than that of the issuing headquarters or to a NATO command, the distribution list normally will be given in full."

4. Operation Plans. Operation plans are published for future or anticipated operations when no specific time is established for their execution. When the time of execution is established and the operation order executed, they become operation orders. The standard form and techniques used in preparing operation orders are applicable to the operation plan, with these exceptions:

a. The title of an OPLAN contains a code name as well as a number (see fig. 4).

b. Paragraph 1, "SITUATION," on an OPLAN has an additional subparagraph--1d, entitled "Assumptions."

REFERENCES:

0-5, Combat Intelligence
101-5, Staff Officer's Field Manual, Staff Organization, and
edure

071-332-5002

PREPARE A FRAGMENTARY ORDER

CONDITIONS:

During combat operations, CPX, and FTX, given a complete copy of an OPORD which your unit is presently executing, pencil or typewriter, an up-to-date situation map, copies of joint messageform DD Form 173 or other form as prescribed by your unit SOP, and commander's or S3's guidance to include, as a minimum: Organizational changes applicable to your unit and its subordinate units; changes to coordinating instructions; and time available for preparation.

STANDARDS:

1. Within the time specified by the commander's or S3's guidance, complete the messageform format as applicable to your organization.

a. Indicate that the order is from the commander.

b. Address the order to the commander of each unit/element directly involved by the specified supplemental information or changes to the OPORD.

c. Send the order as "information" to all other major subordinate unit/element commanders.

d. Cite the same classification as for the OPORD.

e. As your subject, correctly reference the OPORD.

2. In the body of the order:

a. Use the words "no change" to omit elements of the original OPORD which have not changed.

b. Briefly and accurately provide the supplemental information and make the operational changes as specified by your commander.

c. Require acknowledgement.

3. Submit the draft to your S3 for review/approval for dispatch.

PERFORMANCE MEASURES:

1. A fragmentary order provides brief, specific, and timely instruction without loss of clarity. Elements normally found in a complete OPORD may be omitted but specified as "no change" when these elements have not changed, are not essential to the mission, might delay or complicate transmission, or are unavailable or incomplete at the time of issue.

2. The content of a frag order usually consists of changes to:

a. Task organization--any attachment or detachment of units.

b. Situation--any changes in the enemy or friendly situations.

c. Orders to subordinate units--any changes in mission of a unit.

d. Fire support--any changes in the priorities of fires assigned to maneuver units.

e. Coordinating instructions--information that applies to two or more units.

NOTE: This is only one way to prepare a frag order. Your unit SOP may differ.

3. Fragmentary orders provide pertinent extracts from more detailed orders. They provide instructions:

a. As they are developed.

b. When the complete order is not developed.

c. To commanders who do not require the complete order or, more often, provide timely changes to existing orders.

4. Fragmentary orders are appropriate at all levels of command whenever their use can save time or effort. An example of a fragmentary order is shown in figure 1.

JOINT MESSAGE FORM					SECURITY CLASSIFICATION			
					(Classification)			
PAGE	DRAFTER OR RELEASE TIME	PRECEDENCE	LMF	CLASS	CIC	FOR MESSAGE CENTER/COMMUNICATIONS CENTER ONLY		
		ACT	INFO			DATE - TIME	MONTH	YR
1 of 1	171105Z	PP	PP			171415Z	JUN	
MESSAGE HANDLING INSTRUCTIONS								
FROM: CDR52 MECH DIV//USAAD-HD// TO: CDR1ST BDE//USAAD-FB// CDR2D BDE//USAAD-SB// CDRDIV ARTY//USAAD-DA// *** INFO: CDR1ST (US) CORPS//USACO-HD// CDR23D ARMD DIV//USAMD-HD// *** (Classification) USAAD-HD Subj: Change to OPORD 11 (U) A. AB12 OPORD 11 () 1. () Change in task org: TF 1-13 atch 3d Bde. 2. () En force est to be 1,th regt delaying adv 2d Bde. 3. () 3d Bde: bypass 2d Bde on north, atk 171530 June to secure obj 1. One SRC/1KT rd enqd. 4. () Div Arty: 1-13 FA DS 3d Bde. 5. () New 52d Mech Div-23d Armd Div bdry: pres 1st Bde-3d Bde, 23d Armd Div, bdry west of PL CEDAR; and PL CEDAR (autobahn excl) northeast to RJ at MC705563; the railroad to MC782700. 6. (U) Acknowledge.								
DISTR:								
J. E. WYATT, MAJ, ASST G3, USAAD-HT HAWK 33								
A.J. MILLER, JR., LTC, G3, USAAD-HT HAWK 34								
SIGNATURE					(CLASSIFICATION)			

DD FORM 173

Figure 1. Fragmentary order.

REFERENCES:

e

071-332-5020

ESTABLISH AND MAINTAIN S3 WORKBOOK

ITIONS:

As an assistant or operations sergeant, given the SITREP format, pencil, journal file, written or oral orders, messages, conference reports, scissors, spot reports, and a loose-leaf notebook.

DARDS:

1. Establish and maintain the S3 workbook following the prescribed format.
2. Insure that the workbook has been kept current, and obsolete items have been removed or deleted.
3. Insure that information from incoming messages and reports has been entered in the workbook under appropriate heading and cross-referenced.
4. Insure that each entry in the workbook based on an incoming message includes a reference to the journal serial number.
5. Insure that written remarks concerning informal evaluation of the information have been made.

ORMANCE MEASURES:

1. Workbooks are ready references for use in conducting current operations and in preparing reports. A staff section workbook is an index collection of information obtained from written or oral orders, messages, journal entries, and conferences. There is no firm format for the S3 workbook; however, the format of the SITREP (app H, FM 101-5) facilitates the recording of operational information.

2. The S3 continually receives and provides information, prepares and submits reports and recommendations, and prepares plans. In accomplishing these tasks, you are concerned with a great amount of detail. To keep track of these details, you and members of your section must make pertinent written notes for use as reference.

3. Maintain the S3 workbook, to insure that notes are organized and easily found:

a. Establish a workbook (usually consists of a single page or loose-leaf notebook) indexed so that notes can be classified according to subject and easily referred to.

b. Make all pertinent notes in appropriate section of this single workbook.

NOTE: Since a great deal of the content of these notes may be classified information, the workbook facilitates the security handling of recorded items.

4. The type of information which might be entered in the workbook is—

a. Notes of things to accomplish.

b. Items to be included in next situation report.

c. Items to be included in the next combat after-action report/operational reports--lessons learned.

d. Items requiring command emphasis.

5. The workbook is a temporary and informal record. When action is completed on an item, line out the entry.

a. Destroy a page of the workbook that has been filled and all entries lined out.

b. Indicate information entered in the workbook that was obtained from the journal by preceding the entry with the journal item number, source, and time to be used for a ready cross-reference.

6. The format for the S3 workbook will usually vary according to the type activity (tactical or nontactical) the unit is involved in and the S3's desires. Figure 1 shows a sample workbook form indexed to facilitate preparation of the situation report and combat after-action report/operational reports--lessons learned during tactical operations.

The diagram shows a 3D perspective of a workbook. The front cover has a classification line at the top and bottom, and the title 'S3 WORKBOOK' in the center. Below the title are two lines labeled 'Headquarters' and 'Place'. To the right of the cover, the edges of several pages are visible, each with a numbered tab. The tabs are labeled as follows:

- 1: Things to accomplish
- 2(a): SITREP
- 2(b): Location of Forward Elements
- 2(b): Location of Units, Headquarters, and Boundaries
- 2(c): Location of Adjacent Units and Supporting Troops
- 2(d): Description and Results of Own Operations
- 3: Combat After Action Report: Operational Reports: Lessons Learned
- 4: Command Emphasis
- 5: Misc

Figure 1. S3 workbook.

REFERENCES:

101-5, Staff Officer's Field Manual, Staff Organization and Procedure, Jul 72 (chap 2, page 2-7, para 2-16d)

071-332-5022

PREPARE SITUATION REPORT (SITREP)

CONDITIONS:

Given a copy of your next higher headquarters SOP for recurring reports, S3 workbook, staff journal, current operation order, overlays appropriate to operations, file copies of previously submitted SITRIPs, the S2/S4 portions of the SITREP, and time available for preparation.

STANDARDS:

1. Within the time specified by the next higher headquarters SOP, items must be correctly sequenced into the basic five-paragraph SITREP format (omitting subparagraphs not applicable).

2. Annexes and overlays (if used) must be properly labeled and sequenced.

3. The SITREP:

a. Must possess correct classification and downgrading instructions.

b. Must be properly authenticated.

c. Must contain correct distribution instructions.

d. Must be completed and distributed in accordance with the next higher headquarters SOP.

PERFORMANCE MEASURES:

The operational situation report (SITREP) is the means of reporting the operational situation as required by the next headquarters.

1. It is a recurring type report in that it is submitted one or more times daily in a prescribed format. (See figs. 1 and 2 for format.)

2. Requirements for submitting the SITREP are prescribed in the higher headquarters SOP and specify an "as of time" and time the report is due at higher headquarters.

3. The S3 has primary staff responsibility for the preparation of this report. Other staff officers contribute to its preparation by providing the S3 with details to be included from their respective areas of interest. For example, the S1 would provide the enemy information (para 1) and the S2 information pertaining to administration (para 3).

4. Full use of traces/overlays should be made for clarity and brevity of the report.

5. When the SITREP is sent by radio (voice or RATT), it should be confirmed in writing.

6. Prescribed format sequence is used, but subparagraphs not applicable are omitted.

7. Commander's Evaluation, paragraph 5 is completed and directed by higher authority.

(Based on STANAG No 2020, Operational Situation Reports)

FROM: Cdr, 2d Bn (Mech), 76th Inf
TO: Cdr, 1st Bde, 52d Inf Div (Mech)

SITREP 15: Period 120600A to 121800A Jul. ENEMY: No change enemy locations or identifications. Periodic hostile shelling of Bn area. Patrol approximately 30 men attacked Tm B at 12100A Jul. 3 enemy KIA, 3WIA. Aggressor most probable course of action is to attack within 24 hours with present committed forces. OWN SITUATION: Bn continues defense MEAD River. No change in location and dispositions. Tm B repulsed enemy patrol with no casualties. Bn reconnaissance patrol returned 121700A Jul, negative contact. ADMINISTRATION: Normal. RADIATION STATUS: 70% RS-2, 30% RS-1.

Figure 1. Sample situation report in message form.

(Based on STANAG No 2020, Operational Situation Reports)

Figure 2.

(Note: Omit Subparagraphs Not Applicable)

(Classification)

Copy no. _____ of _____ copies
 Issuing headquarters
 Place of issue (may be in code)
 Date-time group of signature
 Message reference number

SITUATION REPORT NO. _____

Period covered: (date and time to date and time).

References: Maps (series number, sheet(s), edition, scale).

1. ENEMY

- a. Units in contact.
- b. Enemy reserves that can affect local situation.
- c. Brief description of enemy activity during period covered by report.
- d. Brief estimate of enemy strength, materiel means, morale, and his probable knowledge of our situation.
- e. Conclusions covering courses of action open to enemy.

2. OWN SITUATION

- a. Location of forward elements.
- b. Location of units, headquarters, and boundaries.
- c. Location of adjacent units and supporting troops.
- d. Brief description and results of operations during period of report.
- e. Noneffective units.

3. ADMINISTRATION

General statement of the administrative situation, if other than normal, as it directly affects the tactical situation.

4. GENERAL

Information not covered elsewhere.

5. COMMANDER'S EVALUATION

To be completed when directed by higher authority.

Authentication: _____

Commander

Annexes: _____

Distribution: _____

(Classification)

Figure 2. Sample situation report in detailed written form.

REFERENCES:

101-5, Staff Officer's Field Manual, Staff Organization and
 Procedures, Jul 72 (app H, pages H-35 and H-36)

071-332-5040

PREPARE AIR MOVEMENT PLAN

CONDITIONS:

As an operations sergeant, given commander and/or S3 guidance, mission to be accomplished, subordinate units' basic planning guides, pencil, type aircraft allocated/cargo-carrying characteristics, type load worksheet format, airloading table format, personnel manifest format, air movement table format, and aircraft load summary.

STANDARDS:

As a minimum you must insure that--

1. All TOE equipment and all non-TOE equipment/material needed to accomplish the assigned mission is included in the loading plan.
2. The load is designed to facilitate the unloading of equipment/material in priority of need to accomplish the assigned mission.
3. Loading plan recognizes integrity of section/units.
4. Load is properly distributed by weight.
5. Vehicles do not exceed configurations and weight limitations for the type of aircraft specified for movement (if applicable).

PERFORMANCE MEASURES:

1. Air Movement. A movement by air may be in conjunction with an airborne operation or may be an administrative move. The technical considerations for either a tactical or administrative air movement are generally the same. However, in an airborne operation the tactical plan is the overriding consideration. The air movement plan is formulated to conform to the tactical plan as far as practicable. In administrative air movements, efficient use of available airlift is usually paramount. The tactical and administrative aspects of air movement planning are contained in FM 57-1 and TM 55-450--5.

2. Planning Considerations. The following planning considerations are used for joint airborne operations and airmobile operations.

a. Mission. The air movement plan must support the mission to be accomplished. This will affect the selection of troops, equipment, and supplies to be moved.

b. Availability of aircraft. The number and type of aircraft available will affect the time required to complete the movement. The echelonment of the force will also depend on the aircraft available.

c. Unit integrity. Whenever possible, unit integrity should be maintained. In an airborne operation, the task organization dictates maintaining tactical integrity. In administrative air movements, unit integrity is sacrificed in order to make maximum use of the allowable cargo load of each aircraft.

d. Distribution of key personnel and equipment. Key personnel are distributed among the aircraft so that the loss of one aircraft does not destroy the command structure of a unit. Key items, such as crew-served weapons, command vehicles, and communications equipment are also distributed among different aircraft. This is referred to as "cross loading."

e. Self-sufficiency of each plane load. Whenever possible, every towed load is accompanied by its prime mover. Crews are loaded with their vehicles and crew-served weapons. Component parts accompany major items of equipment in the same aircraft. Ammunition is carried for each weapon. Sufficient personnel must accompany each aircraft to unload cargo at the destination.

f. Full use of airlift capability. Each aircraft is loaded to take full advantage of its allowable cargo load, so far as is consistent with the mission.

3. Planning Steps.

a. General considerations. Although the air movement plan should be based on tactical considerations, modifications are often necessary because of the type and number of aircraft available. In large-scale operations, there are seldom sufficient aircraft to fly the entire force in one lift. Therefore, it is often necessary to airlift the force by shuttle.

movements. In order for the planning staff to determine aircraft requirements, information must be provided by subordinate units concerning the troops and equipment to be airlifted. For airborne operations, much of the planning is contained in the unit standing operating procedures (SOP).

b. Organization. Once the task organization has been established, the force is organized into assault, followup, and rear echelons based on the tactical plan.

4. Weights of the Personnel.

a. For airmobile operations and tactical airlifts, the standard weights for individuals as shown below are used. These weights take into consideration the weight of the man plus his combat equipment and his share of TOE equipment that is hand-carried.

- (1) Aircraft crewman--200 pounds.
- (2) Combat-equipped soldier--240 pounds.
- (3) Litter patient--250 pounds.
- (4) Parachutist--260 pounds.

b. Each planeload is manifested. In airmobile operations, manifests should be kept as simple as possible. For example, the manifest could be a sheet from the squad leader's notebook listing the man and equipment loaded into his aircraft. In joint operations, the Army unit is responsible for manifesting its loads according to Air Force instructions. Local agreements may be made between the two services to use other types of manifests such as the automated printouts, addressograph sheets, load lists, or airline tickets.

5. Cargo-Carrying Characteristics. Personnel responsible for preparing the loading plans for an air movement must be familiar with the types and characteristics of aircraft available. The aircraft cargo-carrying characteristics listed below must be considered in planning air moves.

- a. Allowable cargo load.
- b. Size and location of the cargo door.
- c. Height of the cargo floor above the ground.
- d. Size and shape of the cargo compartment and its limiting features.

- e. Strength of the floor.
- f. Location and strength of cargo tiedown fittings.
- g. Location, number, and type of troop seats.
- h. Forward and aft cargo center of gravity limits.
- i. Organic loading aids available; e.g., ramps, winches, hoists, and elevators.

6. Gross Weight Limitations. One of the means for insuring that an aircraft is safe to fly is to control its gross weight. The maximum gross weight of an aircraft is governed either by the structural limitation of the airframe or by performance. Two factors which affect the maximum gross weight are--

a. Meteorological conditions. The load-carrying capability of fixed wing aircraft and helicopters decreases with increases of altitude, humidity, and temperature.

b. Departure and arrival airfield. The length, condition, and altitude of the runway may limit the gross weight of an airplane. The runway may limit not only the takeoff weight at the departure airfield, but also the landing weight at the destination. The gross weight of helicopters may depend on the presence of cleared approaches to a landing site.

7. Allowable Cargo Load. The responsibility for computing the allowable cargo load of an aircraft is NOT that of the ground unit. The air movement planner is provided this information by the airlift unit, either Army aviation or the Air Force, as applicable. The planner must realize what factors affect allowable cargo loads so that he may be flexible in his planning.

8. Determining Aircraft Requirement. There are three methods of determining aircraft requirement--weight, space, and type load method.

a. Weight method.

(1) The weight method is used for estimating aircraft requirements to transport large amounts of supplies, general cargo, and personnel. This method is based on the assumption that total weight, not volume, is the determining factor.

(2) To compute the aircraft required, divide the gross weight of the cargo by the allowable cargo load of the aircraft to be used.

(3) Example: A planning officer is required to compute the number of C-130 aircraft needed to transport a task force on a particular mission. The announced allowable cargo load of each C-130 is 27,600 pounds. From the basic planning guides submitted by subordinate headquarters, a total troop and cargo weight of 1,256,868 pounds is computed. To determine the number of aircraft required, divide the total weight by the allowable cargo load:

$$\text{Number of C-130s needed} = \frac{1,256,868}{27,600} = 45.5 \text{ or } 46 \text{ C-130s.}$$

b. Type load method. This method requires consideration of the following:

(1) The principles of safe loading.

(2) The allowable cargo load, weight and balance characteristics, size of cargo compartment, and any special restrictions for each type aircraft to be used.

(3) Number and weight of personnel and equipment to be loaded.

(4) Weight and dimensions data of items to be loaded.

(5) In computing type loads and ascertaining limitations of certain loads, the best method is the use of scale-drawn templates of loads and floor diagrams. These assist the planner in determining possible arrangements of cargo and the effects of space limitations within a given cargo space. TM 55-450--5 contains floor plans of the cargo compartments for both Air Force and Army aircraft.

(6) Upon determination of the task organization and completion of the basic planning guide, the data on personnel and equipment is then translated into terms of aircraft loads. This is accomplished by establishing type loads composed of a specific number of troops and equipment and loading out the unit insofar as possible within these types. Once type loads have been developed, they must be coordinated and approved by representatives of the US Air Force or US Army airlift commander tasked to support the mission.

(a) By considering the above data and through the use of the type load worksheet, aircraft requirements for units can then be determined.

(b) Example: Determine the number of C-130 aircraft needed to transport a rifle company in an air landed

mission. The announced allowable cargo load is 26,000 pounds.

1. The following items are to be moved: (Personnel and equipment in the advance party and followup echelon are not included.)

ITEM	WEIGHT (EACH)
186 Personnel	240 lbs
4 ea X-T Trk	3,073 lbs
6 ea X-T Tr	1,065 lbs
3 ea X-T Trk	7,417 lbs
3 ea X-T Tr	2,840 lbs
2 ea X-T Trk (TOW)	3,085 lbs
2 ea X-T Trk (MSL)	2,841 lbs
1 ea X-T Trk (Redeye)	7,417 lbs

NOTE: Figures include personnel and equipment of attachments accompanying the assault echelon.

loads as follows: 2. Organize the items to be moved into type

**C-130 Aircraft Type Loads
(ACL 26,000 lbs)**

Type Load I (A-1)

29 Personnel	6,960 lbs
2 ea X-T Trk	6,146 lbs
2 ea X-T Tr	2,130 lbs
	15,236 lbs

Type Load II (A-2)		
35 Personnel		8,400 lbs
1 ea %T Trk		3,073 lbs
1 ea %T Trk		1,065 lbs
1 ea %T Trk		7,417 lbs
1 ea %T Trk		2,840 lbs
		22,795 lbs

Type Load III (A-3)		
33 Personnel		7,920 lbs
2 ea %T Trk		14,834 lbs
1 ea %T Trk		2,840 lbs
		25,594 lbs

Type Load IV (A-4)		
26 Personnel		6,240 lbs
1 ea %T Trk (TOW)		3,085 lbs
1 ea %T Trk (MSL)		2,841 lbs
1 ea %T Trk		1,065 lbs
		13,231 lbs

Type Load V (A-5)		
28 Personnel		6,720 lbs
1 ea %T Trk		3,073 lbs
1 ea %T Trk		1,065 lbs
1 ea %T Trk		7,417 lbs
1 ea %T Trk		2,840 lbs
		21,115 lbs

Type Load VI (A-6)		
35 Personnel		8,400 lbs
1 ea %T Trk (TOW)		3,085 lbs
1 ea %T Trk (MSL)		2,841 lbs
1 ea %T Trk		1,065 lbs
		15,391 lbs

aircraft required is-- 3. By inspection, the number of C-130

Type I	1
Type II	1
Type III	1
Type IV	1
Type V	1
Type VI	1
Total	6

Therefore, six C-130's are required under the stated conditions.

NOTE: See figure 2 for an example of a type load worksheet.

c. Space method.

(1) The space method is a desirable method for rapidly computing aircraft requirements for small unit airmobile operations for personnel, weapons, ammunition, and vehicles since the process provides a safety factor. The majority of the computations remain constant and overall planning time is decreased.

(2) A space is defined as the weight of a fully combat-equipped soldier and is used as a denominator to convert the weight of major items of equipment and accompanying supplies into a common factor. A space is considered to be 240 pounds.

(3) In converting weight to spaces, consider only whole or half spaces by carrying fractions to the next higher half or whole space; for example, $10.1 = 10.5$, $11.6 = 12.0$.

(4) Convert major items of equipment such as vehicles, trailers, or heavy weapons into spaces by dividing the weight of each item by 240. If two or more items of the same type are to be transported, multiply the spaces required for a single item by the number of items. Convert additional assault supplies not carried by the individual soldier into spaces by dividing their total weight by 240.

(5) To determine the number of spaces each aircraft can provide, divide the allowable cargo load by 240. In converting allowable cargo loads to spaces, consider only half or whole spaces. Fractions will be reduced to the next lower half or whole space; for example, $22.8 = 22.5$; $24.3 = 24$.

Example: Determine the number of UH-1D/H helicopters required to lift the assault elements of a rifle company as shown on the planning worksheet.

(6) When using the space method, insure that the weight of each piece of equipment is within the allowable cargo load of the aircraft to be used. For example, the 1/4-ton truck cited above requires 12 spaces, but it cannot be transported by six UH-1D/H helicopters because of ACL limitations.

This reduces the helicopters required to 17 and requires you to find another means of transport for the five 1/4-ton trucks.

Unit	Persons	SUPPLIES		MAJOR ITEMS OF EQUIPMENT				
		Weight	Spaces	Item	Weight (lb)	Spaces	No.	Total Spaces
Co A	150	2,000	8.5	¼-ton truck	2,780 lbs	12.0	5	60
				TOW w/4 missiles	389 lbs	2.0	2	4
				¼-ton trailer	1,065 lbs	4.5	3	13.5
TOTAL	150		8.5					77.5

Total Co A = 236 spaces.

Allowable cargo load, UH-1D, for 50 nautical mile radius = 2,600 lbs.

$$\frac{2600}{240} = 10.8 \text{ or } 10.5 \text{ spaces.}$$

$$\text{Aircraft required} = \frac{236}{10.5} = 22.5, \text{ or } 23 \text{ helicopters required.}$$

9. Air Movement Planning Formats. The planning sequence for an air movement is as follows:

a. The basic planning guide is prepared at company level.

b. Basic planning guides are consolidated at battalion and higher level.

c. Aircraft requirements are determined, and aircraft are requested and allocated.

d. The air movement table, prepared jointly between the Air Force and Army, is distributed as part of the air movement annex to the battalion operation order.

e. Based on the air movement table, the type load worksheet, and the unit basic planning guide, the unit air loading table is prepared.

f. Personnel and cargo are manifested based on information found in the airloading table, and outloading begins.

10. Basic Planning Guide. The basic planning guide reflects the exact organization of the preparing unit in terms of personnel, vehicles, equipment, and supplies. It serves as a basis for preparation of a consolidated basic planning guide at higher headquarters. In its consolidated state, it serves as the basis for the preparation of type loads and initial

determination by the weight method of aircraft requirements. It is initiated at company level and consolidated at battalion level and higher. Figure 1 is a sample basic planning guide for a rifle company including normal attachments.

11. Type Load Worksheet.

a. Purpose. This worksheet is used at company or battalion level to organize the unit into planeloads. It may be used either to determine aircraft requirements or to assist in allocating aircraft to subordinate units.

b. Explanation.

(1) Type loads are made up for each type aircraft, keeping within the announced allowable cargo load. If time and circumstances permit, these loads are identified with a Roman numeral for easy reference.

(2) From the basic planning guide, list all equipment, personnel, and cargo to be moved. List this information on the first line.

(3) Select a type load and enter the appropriate number of personnel and items of equipment.

(4) Subtract line 2 from line 1 to keep a running balance of items to be loaded.

(5) Continue to organize type loads until the entire unit is loaded. A sum of the "Number of Aircraft" column gives the total number of aircraft required to lift the unit.

12. Air Movement Table.

a. Purpose. The air movement table is prepared jointly by the combat unit and airlift commanders. Included as part of the operation order, it prescribes the allocation of the aircraft to the organization of the Army units to be lifted. It further designates the number and type of aircraft in each serial and specifies the departure site, time of loading stations and takeoff times, and destination for each serial. It is the most complete time schedule for the air movement phase of the operation.

b. Explanation of the air movement table.

(1) Heading. This gives the time period of the operation and the time zone of the times appearing in the body of the form.

(2) Columns A through O are self-explanatory.

13. Airloading Table.

a. Purpose. This format is a data sheet used by Army unit commanders. It may be transmitted to the Air Force commander for information. The table lists the load that goes into each aircraft. Normally, it is completed at company level and forwarded to battalion headquarters. Certain information that goes on it, such as the serial designation and airlift unit, is obtained from the air movement table.

b. Detailed explanation of the airloading table.

(1) Heading. The headquarters of the unit preparing the format will complete the heading.

(2) Serial number. The same serial number as given in the air movement table for the unit preparing the format.

(3) Airlift unit. The same as given in the air movement table.

(4) Chalk number of aircraft. A number is chalked on the aircraft at the departure site for identification purposes. All aircraft in each serial are numbered consecutively. If two or more serials are departing from the same departure site, the chalk numbers will run consecutively from the first aircraft in the first serial to the last aircraft in the last serial.

(5) Ground unit. The same as given in the air movement table.

(6) Aircraft load. The items of equipment and the number of personnel loaded in the aircraft will be listed in this column.

(7) Remarks. The weight of equipment, personnel, and any notations to be made will be listed in this column.

14. Passenger Manifest (fig. 5). Purpose. The passenger (personnel) manifest is a record of each individual on the aircraft by name, rank, and social security number. It is based on the information contained in the airloading table. The senior Army member in each planeload is responsible for the accuracy of the manifest. A separate form is made for each aircraft, and copies normally are distributed as follows:

a. Aircraft commander.

- b. Planeload commander.
- c. Base operations.
- d. Departure airfield control officer.
- e. Arrival airfield control group.

15. Planning Worksheet (fig. 6).

a. Planning worksheets are prepared at company level, at time permits, to facilitate air movement planning in airmobile operations. This form reflects troops and equipment to be airlifted and the number of spaces required to lift both. The aircraft requirements are determined by totaling the spaces required by the unit and dividing this total by the space capability of the aircraft being used.

b. The planning worksheet is divided into the following parts:

(1) Heading. The heading identifies the unit preparing the form and may also contain information pertaining to the operation itself.

(2) Body. The body is divided into two sections which are the unit identification, personnel, and additional supplies section and the major items of equipment section.

(a) Unit identification, personnel, and additional supplies section.

Column Number 1. This column is used to identify the unit being transported.

Column Number 2. This column is used to identify the number of personnel being transported.

Column Numbers 3 and 4. The weight of additional supplies and the number of spaces required to transport these supplies are placed in these columns.

TYPE LOAD WORKSHEET			HEADQUARTERS: 1st Bn, 88th Inf Schofield Barracks, Hawaii										OPERATION				DATE				
TYPE LOAD	PERS	CARGO	VEHICLES								TRAILERS					OTHER			NUMBER OF AIR- CRAFT		
			% T	% T	2½ T	5 T					% T	1½ T	1½ T	1½ TW	% TW TOW	% T TOW MSL	% T Red- eye				
	186		4	3	2	0												2	2	1	
I	29		2	0		0												0	0	0	1
	157		2	3		0												2	2	1	
II	36		1	1		0												0	0	0	1
	122		1	2		0												2	2	1	
III	33		0	1		0												0	0	1	1
	89		1	1		0												2	2	0	
IV	26		0	0		0												1	1	0	1
	63		1	1		0												1	1	0	
V	28		1	1		0												0	0	0	1
	36		0	0		0												1	1	0	
VI	36		0	0		0												1	1	0	1
TOTAL ACFT REQ: 6																					

Figure 2. Type load worksheet.

Copy No. of copies
1-66 Inf
Fort Benning, Georgia 31906
051400 Feb 73
EEL

Appendix 1 (Air Movement Table) to Annex E (Air Movement) to OPLAN ESSEX
Reference: OPLAN ESSEX
Time Zone Used Throughout the Plan: ZULU

TRANSPORTING UNITS										TRANSPORTED UNITS						
Serial Nr	De- pture B	Chalk Nr	Airift Unit(s) D	Serial Cdr E	Nr & Type Aircraft F	Payload Available G	Employ- ment H	Unit To Be Loaded I	Serial Cdr J	Time Loading Begins (Z) K	Station Time L	Take-Off Time M	Destination DZ/LZ ETA N	Remarks O		
1	0255	H-1	61st TASS	COL Canyon	C-141	60,000	Airland	HHC	COL Eagle	0130	0230	0250	LZ W 0502			
"	"	H-2	"	"	"	"	"	"	"	"	"	"	"			
"	"	H-3	"	"	"	"	"	"	"	"	"	"	"			
"	"	H-4	"	"	"	"	"	"	"	"	"	"	"			
"	"	H-5	"	"	"	"	"	"	"	"	"	"	"			
1	0255	A-1	61st TASS	COL Canyon	C-130	35,000	Airland	Co A	COL Eagle	0130	0230	0250	LZ W 0520			
"	"	A-2	"	"	"	"	"	"	"	"	"	"	"			
"	"	A-3	"	"	"	"	"	"	"	"	"	"	"			
"	"	A-4	"	"	"	"	"	"	"	"	"	"	"			
"	"	A-5	"	"	"	"	"	"	"	"	"	"	"			
"	"	A-6	"	"	"	"	"	"	"	"	"	"	"			

Continued

(Classification)

Figure 3. Air movement table (TM 55-450-15).

AIRLOADING TABLE				HEADQUARTERS: Co A, 1-66 Inf	
Inclosure 1 (Airloding Table) to Appendix 2 (Loading Plan) to Annex E (Air Movement Plan) to OPLAN ESSEX				PLACE: Fort Benning, Georgia	
DEPARTURE AIRFIELD: A-101				DATE:	
LOADING BEGINS 0130Z D+1				STATION TIME: 0235z D-1	
SERIAL NR	AF UNIT	ACFT CHALK NR	ARMY UNIT	ASSAULT ACFT LOADED WITH	REMARKS, INCLUDING SP EQUIP NEEDED FOR LOADING AND TOTAL PAYLOAD
1	61st TASS	A - 1	A/1-66	29 Personnel 2 ea ¼ T Trk 2 ea ¼ T Tlr	<u>Personnel</u> (9) Co Hq: Cdr, RTO, Comm Ch, Rad Mech, Wireman, Aidman, Arty FO, Recon Sgt, Recon RTO (5) 1st Plt: Plt Ldr, RTO, 81-mm FO & RTO, Aidman (10) 1 Rif Sqd (5) AT gunner, asst gunner, MG gunner, asst MG gunner, ammo bearer <u>Vehicles</u> Co Hq: 1 ea ¼ T Trk w/Tlr Arty FO: 1 ea ¼ T Trk w/Tlr TOTAL PAYLOAD: 15,236 lbs
		A - 2	A/1-66	25 Personnel 1 ea ¼ T Trk w/Tlr 1 ea ¼ T Trk w/Tlr	<u>Personnel</u> (1) 1st Plt: Plt Sgt (20) 2 Rif Sqd (6) Wpn Sqd Ldr, AT gunner, asst gunner, MG gunner, asst gunner, ammo bearer (8) Mort Plt: Plt Ldr, RTO, FDC, 1 81-mm Mort Sqd <u>Vehicles</u> Mort Plt: 1 ea ¼ T Trk w/Tlr 1 ea ¼ T Trk w/Tlr TOTAL PAYLOAD: 22,796 lbs
		A - 3	A/1-66	33 Personnel 2 ea ¼ T Trk 1 ea ¼ T Tlr	<u>Personnel</u> (5) 2d Plt: Plt Ldr, RTO, 81-mm Mort FO & RTO, Aidman (20) 2 Rif Sqd (6) Mort Plt: FDC, 1 81-mm Mort Sqd (2) Redeye <u>Vehicles</u> Mort Plt: 1 ea ¼ T Trk w/Tlr Redeye: 1 ea ¼ T Trk TOTAL PAYLOAD: 26,594 lbs

Figure 4. Airloding table.

PASSENGER MANIFEST			(Check applicable box) NONREVENUE REVENUE		1. CARRIER MAC	2. AIRCRAFT NO C-124/0602
3. ORIGIN Pope AFB		4. DESTINATION (Name and location) Travis AFB		5. MANIFEST NO 2	6. TRIP NO AND DATE 4419 1 Jan	7. CABIN ATTENDANT
8. MANIFEST						
LINE NO	GRADE OR TITLE	U.S. ARMED FORCES PASSENGERS (Name and AFSSN or SSN) U.S. CIVILIANS AND FOREIGN NATIONALS (Name Last, First, M.I., and Passport No.)	CHECKED BAGGAGE PIECES WEIGHT		PASSENGER WEIGHT PLUS CABIN BAGGAGE	AUTHORITY AND/OR PRIORITY IDENTIFICATION (HQS., Order No., and Date)
A		B	C	D	E	F
1	SSG	DOE, JOHN M 260832563			300	405th TFW
2	MAJ	JONES, FRANK W 732484280			300	405th TFW
3	LTC	ROE, THOMAS T 402079044			285	HQ USSTRICOM
4	SN	SMITH, LLOYD A 322060728			285	AIRANTISUBRON 11
5	SP6	GREEN, ROBERT N 194786112			300	HQ 107 AIRBORNE DIV
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
TOTALS					1470	TOTAL WEIGHT PASSENGERS AND ALL BAGGAGE 1470
9. ALL PASSENGERS AND BAGGAGE LISTED ON THIS MANIFEST HAVE BEEN RECEIVED						
DATE 1 JAN 68		MANIFEST PREPARED BY (Typed name, grade, title) BROWN, PAUL M., SSG			SIGNATURE OF LOADING SUPERVISOR	
10. ALL PASSENGERS AND BAGGAGE LISTED ON THIS MANIFEST HAVE BEEN RECEIVED BY AIR AND NOTED ON THIS FILE						
DATE		PRINTED NAME, GRADE OR TITLE OF UNLOADING SUPERVISOR			SIGNATURE	

AF FORM 96 APR 68 96 REPLACES AF FORM 961 OCT 63, WHICH WILL BE USED UNTIL 30 JUN 69

Figure 5. Passenger manifest (TM 55-450-15).

PLANNING WORKSHEET				HEADQUARTERS			OPERATION			DATE	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
UNIT	PERSONNEL	ADDITIONAL SUPPLIES		MAJOR ITEMS OF EQUIPMENT			Nr of Items	Total Spaces	TOTAL SPACES EA UNIT (TOTAL COL 2, 4, 9)	REMARKS	
		Weight lbs	Spaces	Item	Weight lbs	Spaces (ea)					
B/1 66	185 (Includes at- tachments) Note 1	4566	19	½ T Trk w/AN/VRC 125	2357	10.0	1	10.0		Wpns Pk Ldr veh. Wt includes radio.	
				½ T Trk w/AN/VRC 47	2408	10.5	2	21.0		Cdr & XO vehs. Wt includes radio.	
				½ T Trk w/AN/VRC 46 AN/VRC 125	2462	10.5	1	10.5		Arty FO Trk veh. Wt includes radios.	
				½ T Trk w/AN/VRC 46 AN/VRC 24 & AN/GRC 19	2714	11.5	1	11.5		TACP. Wt includes radios.	
				½ T Trk, Amb	2963	12.5	1	12.5			
				½ T Trk for TOW	2696	11.5	2	23.0		Wt does not include rifle.	
				TOW w/4 Missiles	369	2.0	2	4.0		Wt includes grd mount.	
TOTALS	185							92.5	296.5		

NOTES:

1. The following personnel were left with the battalion:
XO
Co Ck
Supply Sergeant
Armor
Rad-Tel Opr

2. 81-mm mortar section will use the XO's vehicle.

ACL = 3000 = 12.5 spaces per helicopter
240 = 240
Total Unit Spaces = 296.5 = Helicopters to
Spaces/helicopter = 12.5 lift B/1 66

Figure 6. Planning worksheet.

LOAD	C-123			C-130			C-141			C-5A			CARIBOU CV-2			CHINOOK CH-47		
	L	W	H	L	W	H	L	W	H	L	W	H	L	W	H	L	W	H
Paratroopers	48			64			123			**75			24			24		
Air Landed Personnel	60			92			184			***270			32			33		
Trk ¼-T	3 Trks			4 Trks			6 Trks			-			1 Trk			2 Trks		
Trk ¼-T w/Tlr	3 Trks, 3 Tlrs			3 Trks, 3 Tlrs			4 Trks, 3 Tlrs			-			1 Trk, 1 Tlr			2 Trks, 2 Tlrs		
Trk ½-T	2 Trks			2 Trks			4 Trks			-			-			1 Trk		
Trk ¾-T w/Tlr	1 Trk, 1 Tlr			2 Trks, 2 Tlrs			3 Trks, 2 Tlrs			-			-			1 Trk		
Misc ¼-T Loads	1 Trk w/How 105-mm			-			2 Trks w/How 105-mm			-			-			-		
Trk 2½-T w/Tlr	1 Trk, 1 Tlr			1 Trk, 1 Tlr			2 Trks, 2 Tlrs			-			-			-		
Misc Loads	Combination Not Loadable			1 Trk 5-T 1 How 155-mm			2 5-T Trks			-			-			-		
	1 How 155-mm			1 Trk 2½-T 1 How 105-mm			-			-			-			-		
	1 AN/GRC-26 (Mod)			1 AN/GRC-26 (Mod) 1 Trk ¾-T			-			-			-			-		
	1 Tractor D6			1 Tractor D6			-			-			-			-		
	2 AN/GRC-46						-			-			-			-		
				8-Inch Howitzer			-			-			-			-		

*Cargo compartment size in inches.
**Under development, 73 seats available in troop compartment.
***Aft facing palletized seat kit.

Figure 7. Aircraft load summary

(b) Major items of equipment section:

Column Numbers 5 through 7. These columns are used for major items of equipment. Column 5 is used to give the exact description of the major item of equipment being transported. Column 6 is used to give the exact weight of each of the items described in column 5. Column 7 is used to reflect the exact number of spaces necessary to transport each piece of equipment described in column 5.

Column Number 8. This column reflects the NUMBER of items in column 5 that are to be airlifted.

Column Number 9. This column reflects the total spaces required to transport all the items described in column 5.

16. Aircraft Load Summary (fig. 7). List of aircraft/personnel and equipment capabilities.

REFERENCES:

FM 55-13, Air Transport of Supplies and Equipment: Standard Loads in Air Force C-5 Aircraft
FM 55-15, Transportation Reference Data
FM 57-1, US Army/US Air Force Doctrine for Airborne Operations
FM 55-12 Movement of Army Units in Air Force Aircraft
TM 55-450-15, Airmovement of Troops and Equipment (Nontactical)

071-11B-8500

MAINTAIN A SAFE OR CABINET SECURITY RECORD (DA FORM 672)

CONDITION:

Given a requirement to maintain classified material, an authorized storage container, copies of AR 380-5, DA Supplement to DOD Reg 5200.1-R, and DA Form 672.

STANDARD:

The Safe or Cabinet Security Record (DA Form 672) must identify the container, show its location, and indicate each time the container is unlocked, locked, or checked during the period of time covered by the form.

PERFORMANCE MEASURES:

1. DA Form 672, Safe or Cabinet Security Record, must be conspicuously posted on the outside of each container used to store classified material. AR 380-5 states, "The tops of security containers will be kept free of all extraneous matter"; however, most major commands encourage the posting of DA Form 672 on the top of the container. This insures that anything that has been inadvertently placed on top of the container will have to be removed in order to make entries on the form.

2. The heading of DA Form 672 must include as a minimum the following information:

a. Identification of the container: This identification may be an assigned number, a name (e.g., "company safe, A Co, 1st Bn, 76 Inf"), or both, as shown in figure 1.

SAFE OR CABINET SECURITY RECORD (AR 380-5)	MONTHS AND YEAR Jan/Feb 76
CABINET IDENTIFICATION #2, S-2, 1st Bn, 76th Inf	SECURITY AREA
m 7, Bldg 68, 1st Bn, 76th Inf, Fort Gillum, NY 00000	DOUBLE CHECK AREA NUMBER

Figure 1. Identification of the container.

b. The location of the container: The location should, when practical, include the room number, building number, unit responsible for the container, and the name of the camp, base, or station. In a field environment, the grid coordinate and map sheet identification may be all that is required.

c. The month and year: These dates are filled in as they are reflected in the date column.

3. The checklist portion of the form has four major columns. When an individual places his initials on the form, he certifies that he has complied with the instruction paragraph shown in figure 2.

AS INDICATED BY MY INITIALS BELOW, I HAVE UNLOCKED, LOCKED OR CHECKED THE ABOVE IDENTIFIED CONTAINER ON DATE AND TIME NOTED. IN LOCKING OR CHECKING THIS CONTAINER, I HAVE ASCERTAINED THAT ALL DRAWERS (or doors) HAVE BEEN CLOSED, AND, WHEN APPLICABLE, THAT THE LOCKING BUTTON IS IN LOCKED POSITION, AND THAT I HAVE ROTATED THE DOOR AT LEAST FOUR TIMES IN THE SAME DIRECTION.

JAN DATE	UNLOCKED BY		LOCKED BY		CHECKED BY		DATE	UNLOCKED BY		LOCKED BY		CHECKED BY	
	TIME	INITIALS	TIME	INITIALS	TIME	INITIALS		TIME	INITIALS	TIME	INITIALS	TIME	INITIALS
29	0800	SS	1700	SS	1700	Rm							
30	0800	Rm	1700	Rm	1700	SS							
31	0800	Rm	1700	Rm	1700	SS							
FEB 1	1300	SS	1700	SS	1700	Rm							
2	1030	Rm	1700	Rm	1700	SS							
5	0800	SS	1700	SS	1700	Rm							
6					1700	Rm							
7	0800	SS	1700	SS	1700	Rm							
8					1700	Rm							
9					1700	Rm							
12	0800	SS	1700	SS	1700	Rm							

REPLACES DA FORM 672, 1 DEC 61. EXISTING SUPPLIES OF WHICH WILL BE ISSUED AND USED UNTIL 1 DEC 62, UNLESS SOONER EXHAUSTED

Figure 2. Checklist portion of DA Form 672.

a. The first column, DATE, requires the day of the appropriate month. The name of the month need not be entered in each block if it has been entered on the first date of the particular month.

b. The UNLOCKED BY and LOCKED BY columns are filled in only by authorized personnel. The person who locks the container is responsible for insuring that the container is checked by some other person.

c. The CHECKED BY column must be filled in each normal working day regardless of whether or not the container was unlocked. The person checking the container cannot be the one who locked the container.

4. Reversible "OPEN-CLOSED" signs are available through normal supply channels. This sign will be used on each container. The person unlocking the container will insure that the OPEN side is visible, and the person locking it will turn the sign so that the CLOSED side is visible.

NCE:

-5, DA Supplement to DOD 5200.1-R (DODISPR), Jul 74

071-11B-8502

SAFEGUARD/ACCOUNT FOR CLASSIFIED
MATERIAL/DOCUMENTS

ITIONS:

As classified documents custodian or alternate custodian, given copies of local security directives regarding storage of classified material/documents, a copy of AR 380-5 (Security) and a copy of DOD 5200.1-R (Information Security Program Regulation).

DARDS:

1. Insure that storage containers, vaults, alarm systems, and/or associated security devices meet the requirements established by the General Services Administration (GSA), in addition to the specifications outlined in AR 380-5 and DOD 5200.1-R.

2. Accounting for classified material/documents will consist of:

a. Verification of location or disposition of all classified documents.

b. Maintaining an accountability register (DA Form 3964) for Secret and Top Secret documents/material.

c. Conducting an inventory of classified material/documents annually and as often as circumstances warrant.

ORMANCE MEASURES:

1. Custodians of classified material are responsible for protecting and accounting for this material at all times. In addition, they are responsible for locking classified material in appropriate security equipment whenever it is not in use or under the direct supervision of authorized persons. Custodians must follow procedures which insure that unauthorized persons do not gain access to classified information or material by sight or sound or other means. They must develop training and controls so that classified information is not discussed with or in the presence of unauthorized persons.

2. Classified information may be used, held, or stored only where facilities and conditions exist to prevent unauthorized persons from gaining access to the information. The exact nature of security requirements will depend on an evaluation of local conditions and circumstances. Security requirements must permit necessary access to classified information while still providing a reasonable degree of security with a minimum of calculated risk.

3. Whenever classified material is not under the personal control and observation of an authorized person, it will be guarded or stored in a locked security container as prescribed below:

a. Top Secret: Top Secret material may be stored in one of the following: Safes, files, or vaults.

(1) A safe or safe-type steel file container having a three-position dial-type combination lock. This lock must be a type approved by the General Services Administration (GSA).

(2) A Class A vault which meets the standards established by the Department of the Army.

(3) The safe, file, or vault used above must be secured in an area equipped with an alarming device. The physical barrier must be adequate to prevent surreptitious removal of material and observation when observation would result in the compromise of the material. This barrier must give evidence of attempted entry into the area or room. The alarm system must, as a minimum, provide immediate notice to a security force of attempted surreptitious forced entry.

b. Secret and Confidential: Secret and Confidential material may be stored as follows:

(1) In the manner authorized for Top Secret material.

(2) In a Class B vault, or a vault-type room, strong room, or secure storage room which meets the standard prescribed by the Department of the Army.

(3) In a steel filing cabinet having a built-in GSA approved three-position, dial-type combination lock.

(4) As a last resort, in a steel filing cabinet equipped with a steel lock bar. The bar must be secured by GSA approved changeable combination padlock.

4. As custodian, you are responsible for accounting for all classified material/documents in your possession or in the possession of authorized persons in your unit, office, or staff section. A register must be maintained on all Top Secret and secret documents/material. The use of a register for confidential material is at the discretion of the custodian.

NOTE: Top Secret documents are controlled and maintained by a Top Secret control officer. This officer must be appointed by written orders. It is his responsibility to maintain a Top Secret document register on DA Form 3964. The Top Secret control officer handles all actions pertaining to Top Secret information. Therefore, as custodian, it is possible, but not likely, that you will ever have 100 percent responsibility for Top Secret material other than those responsibilities delegated to you by the control officer. AR 380-5, paragraph 2-34, specifies the accountability requirements for Top Secret documents. It is important, however, that you be aware that any responsibility given to you regarding the safeguarding and maintenance of classified material requires you to contribute a 100 percent effort to the overall protection effort.

5. DA Form 3964 will be used as a single entry register (see g. 1). The form will be used to reflect the receipt, dispatch, downgrading, or destruction of all Top Secret and secret material.

6. Top Secret documents will be inventoried at least once annually on or about 1 April or as often as the custodian may deem necessary. Documents will be physically checked or counted for by examining written evidence of their disposition. For example, evidence of proper disposition includes the certificate of destruction and transfer receipt, etc. During this inventory, you should check the document against the information recorded in the register (DA Form 3964). You should specifically check the title, date, number of copies, number of pages, and originator of each document.

CLASSIFIED DOCUMENT ACCOUNTABILITY RECORD						DATE
For use of this form, see AR 380-5; the proponent agency is the Office, Assistant Chief of Staff for Intelligence.						
SECTION A - GENERAL						
TO:				FROM:		
DATE RECEIVED		ACTION OFFICE(S)		SUSPENSE DATE(S)		REGISTER OR CONTROL NO.
CONTROL, LOG OR FILE NO.	CLASSIFICATION	NUMBER OF COPIES	DESCRIPTION (Type, File Ref., Unclassified Subject or Short Title and Number of Indorsements/Encs)		DATE OF DOCUMENT	ORIGINATOR
SECTION B - ROUTING						
TO	COPY NO.	DATE	PRINTED NAME		SIGNATURE	
1.						
2.						
3.						
4.						
5.						
SECTION C - DESTRUCTION CERTIFICATE (Check appropriate block)						
MATERIAL DESCRIBED HEREON HAS BEEN:						
☐ DESTROYED ☐ TORN IN HALF AND PLACED IN A CLASSIFIED WASTE CONTAINER (AR 399-0)						
OFFICE SYMBOL	DATE	PRINTED NAME OF CUSTODIAN OR REP.			SIGNATURE	
DESTRUCTION RECORD NO.	DATE	PRINTED NAME OF CERTIFYING/DESTR. OFF.			SIGNATURE	
PAGE OR COPY NUMBER	DATE	PRINTED NAME OF WITNESSING OFFICIAL			SIGNATURE	
SECTION D - REPRODUCTION AUTHORITY						
NUMBER OF COPIES TO BE REPRODUCED		AUTHORIZED BY				DATE
SECTION E - RECEIPT/TRACER ACTION (Check appropriate block)						
☐ RECEIPT OF DOCUMENT(S) ACKNOWLEDGED ☐ DOCUMENT(S) HAVE NOT BEEN RECEIVED						
☐ TRACER ACTION: SIGNED RECEIPT FOR MATERIAL DESCRIBED ABOVE HAS NOT BEEN RECEIVED.						
DATE	PRINTED NAME, GRADE OR TITLE				SIGNATURE	
COMMENTS						

DA FORM 3964, 1 Nov 72

REPLACES DA FORMS 1203, 1 SEP 60; 1304, 1 JAN 60; 931, 1 MAR 62 AND 549, 1 OCT 63, WHICH ARE OBSOLETE.

Figure 1. Classified Document Accountability Record (DA Form 3964).

REFERENCES:

10-5, Department of the Army Supplement to DOD 5200.1-R
(DISPR), Jul 74
5200.1-R, Information Security Program Regulation (DODISPR),
73

071-11B-8503

SAFEGUARD FOR OFFICIAL USE ONLY (FOUO) MATERIAL

CONDITION:

Given a copy of AR 340-16, material designated For Official Use Only (FOUO), and a date when the FOUO classification will be cancelled.

STANDARDS:

During the time that FOUO material is maintained, it will be marked, stored, handled, transmitted, extended or terminated, and destroyed in accordance with paragraphs 6 through 13 of AR 340-16.

PERFORMANCE MEASURES:

1. The term FOR OFFICIAL USE ONLY applies only to that unclassified information, records, and other material which have been determined to require protection from disclosure to the general public and which for a significant reason should not be given general circulation. Categories of information which may be considered FOUO are desired in paragraph 2-6 b through i, AR 340-17. FOR OFFICIAL USE ONLY is definitely not a security classification. FOUO will not be used as a lower security classification marking. No classified information will be marked FOUO for a protective marking. Material may be designated FOUO by officers, noncommissioned officers of grade E7 or above, and by civilian employees of grade GS-8 or above.

2. As a broad guideline, FOUO material will be safeguarded to prevent its disclosure to the general public and to limit its circulation. Measures for safeguarding FOUO include:

a. Thorough briefing of personnel.

b. Limiting access to FOUO material to authorized personnel. It should be remembered that security clearances required for access to classified material are not required for access to FOUO material.

c. Proper marking of material.

d. Proper storage, handling, transmission, release, and destruction of material.

e. Observing special safeguards required by individual agencies, commands, or other regulations. Local SOP and supplements to AR 340-16 may impose more restrictions to safeguard FOUO material as the local situation or specific information warrants.

3. Not all FOUO material need be marked FOUO. The purpose of the marking is to alert the user or handler that the material should not be publicly released or handled indiscriminately. Some material, such as personnel and medical files, is governed by regulations specifying what may be released and does not require FOUO markings unless special conditions require these markings to insure their protection.

a. Stamp or mark FOR OFFICIAL USE ONLY in bold letters at least 3/16 inch high near the bottom of a page. The abbreviation FOUO will not be used for such a marking. Mark permanently bound volumes on the outside of the front and back covers, the title page, and the first and last pages only. Stapled volumes are not considered permanently bound. Mark unbound documents only on the pages which contain FOUO information. Pages which contain classified information are marked with the appropriate classification marking. The abbreviation FOUO is then authorized to identify specific paragraphs containing FOUO information within the classified page.

(1) FOUO markings on pages produced by automatic data processing equipment may be applied by the equipment's printing wheels as long as the markings are in accordance with paragraph 3a above. If individual pages are removed, each page so removed will be marked as required above.

(2) When FOUO material is attached to an unclassified cover or transmittal paper which does not contain FOUO information, then the cover or paper will be marked as required in paragraph 3a. The following statement, or a similar one, will be added adjacent to the FOR OFFICIAL USE ONLY marking.

This marking is CANCELLED when separated
from the material bearing a protective marking.

b. Termination of markings will be specified on FOUO material. The earliest possible data or event when FOUO markings are terminated will be specified. Do not use statements such as "cancellation of markings cannot be determined at this time." Termination statements will be stamped, marked, or typed adjacent to the FOR OFFICIAL USE ONLY document. Electrically transmitted messages will include this statement at the end of the text.

c. Suggested termination markings are as follows:

(1) For a specific date:

Protective marking is cancelled on (date).

(2) For documents which are part of a contract file (date will be at least 3 days later than offerer's acceptance date):

Protective marking is cancelled upon award of contract or on (date), whichever is earlier.

(3) For a specific event:

Protective marking is cancelled upon occurrence of event specified in paragraph ().

(4) For material excluded from automatic termination as discussed in paragraph 8c below:

Protective marking is excluded from automatic termination (paragraph 13, AR 340-16).

4. FOUO material is filed and stored with other unclassified files. When normal government or government-contractor internal building security is provided during nonduty hours, FOUO material may be stored in unlocked files, desks, bookcases, or similar containers. When no such security exists, FOUO material is adequately safeguarded when stored in locked rooms or other locked containers such as desks, files, and bookcases. Normally, local SOP and supplements to AR 340-16 will further amplify these storage requirements based on local requirements.

5. Secure handling of FOUO material is largely related to common sense. Do not leave FOUO material unattended unless it is placed out of sight. Attach the FOUO cover sheet (DA Label 87) to all FOUO material.

6. FOUO material is mailed or shipped in the same way as other unclassified material except that envelopes, wrapping, or

containers used must prevent the disclosure of contents. The US Government Messenger Envelope (SF 65) may be used to transmit FOUO material between Government offices. When FOUO material is hand-carried, it will be protected to prevent its disclosure and to prevent access by unauthorized persons. FOUO material need not be encrypted unless necessary for transmission. AR 105-31 states requirements for encryption for transmission only (EFTO). FOUO information may be discussed over the telephone for the conduct of official business. When transmitting FOUO information, receipts will not be used unless required for reasons other than protection of the FOUO information.

7. FOUO information may be exchanged between and released to components and individuals of the DOD, departments and agencies of the executive and judicial branches, and DOD contractors and grantees. AR 340-17 governs the release of FOUO information to the legislative branch and to the public. FOUO markings will be cancelled on release outside the Federal Government except when released to DOD contractors and grantees. FOUO information will not be released to foreign governments or international organizations within the scope of AR 380-10 unless the originator authorizes termination of the FOUO status. More explicit guidance on release of FOUO material to foreign governments or international organizations is found in paragraph 9b, AR 340-16.

8. Unless a date or event is specified, FOUO markings are automatically terminated 3 years from the date of origin except in specific instances cited in paragraph 8 a-c below.

a. FOUO markings may be extended for specific periods of time or until a specific event occurs. To extend the marking, the following statement, or a similar one, will be stamped, marked, or typed on the cover (or first page of documents without a cover) of all copies:

Protective marking is extended until

(date or occurrence of event) (signature and date).

b. If a category of material must remain FOUO indefinitely, then an exception to paragraph 12, AR 340-16, must be requested from HQDA (DAAG-ASR) Washington, D.C. 20314. Such a request may be initiated only by the proponent of the policy directive(s) for the material involved. Paragraph 13a, AR 340-16, explains the specific justification needed to maintain an indefinite FOUO status.

c. FOUO markings are not automatically terminated for the following:

(1) IG reports prepared under the provisions of AR 20-1.

(2) Investigations conducted under the provisions of AR 381-130 and AR 195-2.

(3) Army personnel tests administered under the provisions of AR 611-5 and listed in DA Pam 310-8.

(4) Aircraft mishap/accident reports and all related documents prepared under the provisions of AR 95-5, AR 95-30, and AR 385-40.

(5) MOS evaluation tests and related material subject to the provisions of AR 600-200.

(6) All cryptographic-related information to include ARs, TMs, TBs, MWOs, and correspondence related to cryptographic matters.

(7) Information in personnel and medical files or similar files constituting an invasion of privacy or violation of confidence.

(8) Information as to the identity of sources of information and information provided in confidence if disclosure would be prejudicial to Army interests or embarrassing to the source.

(9) Information for which specific provisions are made in the Armed Services Procurement Regulation.

d. FOUO markings may be terminated at any time, regardless of the date or event specified, by--

(1) The originator.

(2) A higher headquarters in the originator's command channel.

(3) HQ DA agencies for material marked in the Army field commands.

(4) Officers, noncommissioned officers in grades E7 or above, and civilian employees in grade GS-8 and above, when authority is delegated in writing through (3) above.

e. When FOUO markings no longer apply, they are cancelled by lining out all such markings. An FOUO marking which shows a specific cancellation date does not need additional physical

cancellation unless cancellation is made prior to that date. When an FOUO marking is physically cancelled, the person who cancels the markings will sign next to the cancelled marking on the cover (or the first page if there is no cover) and list his organization and the date of cancellation. It is not necessary to remove a document from file or storage solely to cancel the FOUO markings. Cancellation can be made when the document is removed for any other purpose.

9. FOUO documents can be destroyed by tearing them into pieces in such a way that the contents will not be disclosed. Such material may then be placed in containers used for other classified material. Other methods are authorized if they preclude disclosure of the contents.

10. Be aware that this basic guidance may be amplified and made more restrictive by local policies and supplements to the regulation as dictated by local conditions.

REFERENCES:

AR 340-16, Safeguarding FOUO Information, Aug 75
AR 340-17, Release of Information and Records from Army Files, Jun 73

071-11B-8504

PREPARE DA FORM 727 (CLASSIFIED
CONTAINER INFORMATION)

CONDITIONS:

As an intelligence sergeant and/or classified material/documents custodian, given a requirement to prepare classified container information on DA Form 727 in accordance with AR 380-5.

STANDARD:

Prepare required DA Form(s) 727 insuring that you--

1. Complete all three parts of the form without error.
2. Post and locate the parts of the form as prescribed by AR 380-5 and paragraph 2 below.

PERFORMANCE MEASURES:

1. DA Form 727 is used for the purpose of identifying the precise location of a safe, to include name of agency, division, branch section, container number, and room number. The form also contains the date the combination was changed, the combination of the safe, and the identification of individuals who possess the combination (see figs. 1 and 2).

2. DA Form 727 is divided into three parts.

a. Part 1. Part 1 contains all the pertinent facts as to the safe's location, the date that the safe's combination was last changed, and the address and telephone numbers of individuals who possess the combination. Part 1 will be posted on the front of the safe.

b. Parts 2 and 3. Part 2 is a carbon copy duplicate of part 1. Part 2 will be attached to an opaque envelope which will contain part 3. Part 3 is a classified document. It will be marked with the classification equal to the highest level of classified information which the commander designates to be stored in the container. The top portion of part 3 is a carbon copy duplicate of the information listed on the top portion of parts 1 and 2. In the spaces provided on part 3, you will enter

CLASSIFIED CONTAINER INFORMATION (AR 380-5)			
Attach to outside of safe.			
AGENCY			
DIVISION		SECTION	
CONTAINER NO	ROOM NO	DATE COMBINATION LAST CHANGED	
Immediately notify one of the following persons of the duty officer if this container is found open and unattended.			
NAME AND GRADE		HOME PHONE NO	
HOME ADDRESS			
NAME AND GRADE		HOME PHONE NO	
HOME ADDRESS			
NAME AND GRADE		HOME PHONE NO	
HOME ADDRESS			

DA FORM 727, 1 MAY 63
EDITION OF 1 APR 57 WILL
BE USED UNTIL EXHAUSTED.

CLASSIFIED CONTAINER INFORMATION (AR 380-5)			
To be inclosed in classified information envelope container.			
AGENCY			
DIVISION		SECTION	
CONTAINER NO	ROOM NO	DATE COMBINATION LAST CHANGED	
CONTAINER COMBINATION			
Left		TO NUMBER	
Right		TO NUMBER	
Left		TO NUMBER	
Right		TO NUMBER	
Fold on the line prior to insertion in envelope.			



DA FORM 727, 1 MAY 63
EDITION OF 1 APR 57 WILL
BE USED UNTIL EXHAUSTED.

Figure 2. Part 3.

the combination of the containers (see fig. 2). The combination should include the direction of turn corresponding to the number. You will then fold part 3 along the dotted lines as indicated and place part 3 in the opaque envelope and seal it. The envelope will be marked to reflect the classification of part 3, DA Form 727, and forwarded to the classified document control officer at the next higher headquarters.

3. A new DA Form 727 must be prepared when any of the required information is changed. In most cases this coincides with a change in combination of the lock. Changes in combination must be made--

- a. At least annually.
- b. When personnel knowledgeable of the combination leave.
- c. In the event the combination is compromised.
- d. When safe is put into operation.

REFERENCE:

AR 380-5, Department of the Army Supplement to DOD 5200.1-R (DODISPR), Jul 74

071-11B-8505

DETERMINE THE CORRECT CLASSIFICATION AND
DOWNGRADING DECLASSIFICATION MARKINGS
FOR DOCUMENTS

CONDITIONS:

Situation 1. Given a classified document(s) from which you are to extract information to prepare a related document(s) that will require classification, downgrading, or declassification marking, a copy of DOD Regulation 5200.1-R and AR 380-5.

Situation 2. Given a document(s) that has (have) been originated by your unit that require(s) classification, downgrading, or declassification marking, a copy of DOD Regulation 5200.1-R and AR 380-5.

STANDARDS:

Situation 1: Determine the correct markings for the document(s) you have prepared/extracted from the classified document.

Situation 2: Determine the correct markings for the document(s) originated by your unit.

PERFORMANCE MEASURES:

1. Classification Authority. Classification authority may be of two types: original or derivative.

a. Original Classification Authority: Original classification authority is the authority to make determination that official information currently requires, in the interests of national security, a specific degree of protection against unauthorized disclosure. This authority is restricted solely to those officials specifically designated in writing. See appendix A of DOD Regulation 5200.1-R. The exercise of this authority is personal to these officials and may not be delegated by them or used by anyone acting for them or in their names.

b. Derivative Classification Authority: Derivative classification authority means that if you create a document, either in part or in total from a classified document, then this newly created document will derive its classification from the

original document or the parts of the document used. However, unclassified parts from a classified document will not require a classification. A derivative document will then have the same overall classification markings as the original document or the parts of the document used.

2. Classification Markings on Documents.

a. Overall and Page Marking. Except as otherwise specified for working pages, the overall classification of a document, whether it is permanently bound or not (this includes any copies or reproductions) will be "conspicuously" marked or stamped at the TOP and BOTTOM on the outside of the Front Cover (if any), on the TITLE PAGE (if any), on the FIRST PAGE, on the BACK PAGE, and on the outside of the BACK COVER (if any). Each interior page of a document must be "conspicuously" marked or stamped at the TOP and BOTTOM with the highest classification of information appearing on the page to include the designation "Unclassified" if appropriate. (Note that a single sheet with information on front and back is considered to consist of two pages.)

b. Marking Components. In some documents, the major components are likely to be used separately. In this case, each major component will be marked as a separate document using the marking requirements in 2a above. Examples of components requiring markings include: (1) Each annex, appendix, or similar component of a plan, program, or operations order; (2) attachments and appendixes to a memorandum or letter; and (3) each major part of a report.

c. Paragraph Marking. When there are differences in their classifications, each section, part, paragraph, or subparagraph must be marked to indicate the level of classification. If a section, part, paragraph, or subparagraph is unclassified, then it must be marked as such. EXAMPLE: When the text of the lead-in (basic) portion of a paragraph is unclassified, but subsequent subparagraphs are classified, the lead-in paragraph will be marked as "Unclassified" and each subparagraph shall be marked with its respective classification status. In this instance, the symbol denoting the overall classification of the paragraph would be shown immediately following the paragraph number or letter as the case may be. (For example 1. (U) or 2. (U).) At the end of the text of the unclassified lead-in paragraph the symbol "(U)" should be shown. Classification levels of subparagraphs will be shown by the appropriate classification symbol immediately following the subparagraphs letter or number as the case may be. In marking paragraphs, section, or parts, the appropriate marking should be placed immediately preceding and to the left of the elements to

be marked. If desired, the symbols (TS) for Top Secret, (S) for Secret, (C) for Confidential, and (U) for Unclassified may be used. When appropriate, the symbols (RD) for Restricted Data and (FRD) for Formerly Restricted Data shall be added.

d. Subjects, Titles, Abstracts, and Index Terms. Subjects, titles, abstracts, and index terms should be selected whenever possible to avoid the requirement for classification. To show its classified or unclassified status, such items should be marked with the appropriate symbol (TS), (S), (C), or (U) placed immediately following and to the right of the item. When appropriate, the symbols (RD) and (FRD) will be added.

3. Downgrading Markings. In addition to the classification markings at the time of origination, each classified document or other material will be marked to reflect downgrading and declassification instructions in accordance with the following:

a. Action by Specific Date or Event. When specific dates or events for downgrading and declassification are predetermined under the provisions of paragraph 3-101, DOD 5200.1-R, documents and other material must be conspicuously marked to show clearly to the recipient or user of such material when downgrading and declassification actions are intended by the originator to occur. The following marking will be placed conspicuously in a similar prominent place immediately below or adjacent to and in conjunction with the classification marking.

DOWNGRADE TO:
 SECRET ON (effective date)
 CONFIDENTIAL ON (effective date)
 DECLASSIFY ON (effective date)
 CLASSIFIED BY

b. General Declassification Schedule. When specific dates for downgrading and declassification are assigned in accordance with chapter III, section 2 of DOD 5200.1-R, documents and other material will be marked in the following manner:

CLASSIFIED BY
 SUBJECT TO GENERAL DECLASSIFICATION
 SCHEDULE OF EXECUTIVE ORDER 11652
 AUTOMATICALLY DOWNGRADED AT 2-YEAR INTERVALS
 DECLASSIFIED ON DECEMBER 31, (YEAR)

c. Exemptions from General Declassification Schedule. Unless marked RD or FRD, documents or material containing information which is exempt from the General Declassification

Schedule under the provisions of section 3, chapter III, DOD 5200.1-R, will be marked for downgrading and declassification purposes in the following manner.

CLASSIFIED BY
EXEMPT FROM GENERAL DECLASSIFICATION
SCHEDULE OF EXECUTIVE ORDER 11652
EXEMPTION CATEGORY
DECLASSIFY ON (effective date)

4. Training Documents. Documents used for training purposes and which are not actually classified **must** be marked "FOR TRAINING ONLY OTHERWISE UNCLASSIFIED."

REFERENCES:

DOD 5200.1-R, Information Security Program Regulation, Nov 73
AR 380-5, Department of the Army Supplement to DOD 5200.1-R (DODISPP), Jul 74

331-915-0301

PROCESS FILM

ITIONS:

You will be given exposed film, necessary equipment and materials, and the Kodak Darkroom Dataguide.

DARDS:

Negatives that are clear and readable.

ORMANCE MEASURES:**1. Tank Method.**

- a. Unload film from cartridge in the dark.
- b. Load film onto reel in the dark.
- c. Load reel into tank in the dark.
- d. Turn on the light.
- e. Select developing time.
- f. Pour developer into tank.
- g. Agitate for selected time.
- h. Drain developer into its bottle.
- i. Pour stop bath into tank.
- j. Agitate for 30 seconds.
- k. Drain stop bath into its bottle.
- l. Pour fixer into tank.
- m. Agitate for specified time.
- n. Drain fixer into bottle.

- o. Wash film.
- p. Hang film up to dry.
- q. Cut film into strips and place in envelope.

2. Tray method.

a. Set up four trays—water, developer, stop bath, and fixer.

- b. Select developing time.
- c. Turn out the light.
- d. Unload film from cartridge.
- e. Agitate film in water for 1 minute.
- f. Agitate film in developer for selected time.
- g. Agitate film in stop bath for 30 seconds.
- h. Agitate film in fixer for specified time.
- i. Turn on the light after 1 minute.
- j. Wash film for 30 minutes.
- k. Hang up film to dry.
- l. Cut up negatives into strips and place in envelope.

3. Cartridge Method.

a. Wrap the leading end of the film around cartridge and poke it back into the cartridge slot.

b. Put cartridge into a bottle large enough to completely cover the cartridge with fluid.

- c. Pour in water.
- d. Agitate for 1 minute.
- e. Drain water.
- f. Select developing time.
- g. Pour in developer.

- h. Agitate for selected time.
- i. Drain developer.
- j. Pour in fixer.
- k. Agitate for specified time.
- l. Drain fixer.
- m. Remove cartridge from bottle.
- n. Take film out of cartridge and put film back into
medicine bottle.
- o. Add water and agitate 30 seconds and drain.
- p. Repeat step "o," above, five times.
- q. Take film off spool.
- r. Hang film up to dry.
- s. Cut up negatives into strips and place in envelope.

NCES:

331-915-0302

MAKE A CONTACT PRINT

TION:

You will be given two sheets of glass, photographic paper, processed film, light source, darkroom, necessary chemicals, and equipment.

WARD:

This will be done so that the contact print will be clear and readable.

PERFORMANCE MEASURES:

1. Clean and dry both sheets of glass.
2. Turn off light.
3. Place the paper, emulsion-side up, on one sheet of glass.
4. Place the negatives, emulsion-side down, on the paper.
5. Place the other sheet of glass on top of the negatives.
6. Place the light source directly over the glass, turn it on briefly, and time the exposure.
7. Place the print in the developer tray.
8. Agitate for required developer time.
9. Drain the print.
10. Place the print in the stop bath.
11. Agitate for 30 seconds.
12. Drain the print.
13. Place the print in the fixer.
14. After 1 minute in the fixer, turn on the light.

15. Agitate occasionally for 10 minutes.
16. Drain the print.
17. Inspect the print.
18. If the print is clear and readable, place print in water tray and wash for 30 minutes.
19. If not correct exposure, repeat process of contact printing, adjusting the exposure time.
20. Dry print.

REFERENCES:

None

301-243-4105

DRAFT A GOOD SURVEILLANCE PLAN

CTIONS:

You will be given surveillance requests, 1:50,000 scale map of area, enemy and friendly situation, and writing material.

BOARD:

The ground surveillance plan must support mission requirements.

FORMANCE MEASURES:

1. Plan general employment locations to include monitoring and relay sites.
2. Plan alternate missions.
3. Plan for complete coverage of area of interest.
4. Plan for intervals of operation to meet requirements.
5. Plan reporting procedures for collected information.
6. Plan for security of employed assets.
7. Plan for coordination of fire support.
8. Plan for remote sensors emplacement methods.
9. Draft ground surveillance operations methods.
10. Check ground surveillance operations overlay to insure coverage of area.
11. Revise ground surveillance operations overlay if necessary. Submit plan to approving authority.

REFERENCES:

TC 30-23, Ground Surveillance Radar, Sep 76 (Chap 1 and 2)
FM 31-100 (Test) Surveillance, Target Acquisition and Night
Observation (STANO) Operation, May 71 (Chap 9, para 9-5 and app C)
ISS Subcourse 290, Introduction to Surveillance, Target Acquisition
and Night Observations (STANO)

301-337-1151

MAKE INITIAL CONTACT WITH SOURCE

CONDITION:

You will be given a source, interrogation area, escort guards, and the requirement to meet an assigned source for the first time.

STANDARDS:

1. A determination is made on how you will contact source the first time.
2. Conversation with source is initiated where the interrogator displays neither nervousness nor lack of self-confidence.
3. Control of the interrogation is assigned by the interrogator from the beginning.
4. A businesslike manner is maintained in the interrogation area until you determine from the source's attitude that a change of mood may be more advantageous to your interrogation effort.
5. Your true rank and identity is successfully concealed from source.

PERFORMANCE MEASURES:

1. Determine the actual manner or procedure which you intend to use on initial contact with the source. Possible procedures may include but are not restricted to:
 - a. The source waiting for you in the interrogation area.
 - b. You waiting for the source in the interrogation area.
 - c. You escorting the source to interrogation area, arriving together.
2. Determine opening remarks carefully to avoid display of nervousness or lack of self-confidence.

3. Maintain a businesslike attitude until the source's attitude indicates a change of mood may be advantageous to the interrogation effort.

4. Conceal your true rank and identity from source according to unit/section SOP.

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1152

USE "DIRECT APPROACH" INTERROGATION TECHNIQUE

ITION:

You will be given a source, interrogation aids, FM 30-15, and an interpreter (if necessary).

DARDS:

1. You correctly determine that your interrogation time is limited, source will offer little or no resistance to your interrogation effort, and source has had little or no security training.
2. The "Direct Approach" technique is used by questioning source on the interrogation objective from the beginning.

ORMANCE MEASURES:

1. Determine that a speedy interrogation is necessary.
2. Determine that source will offer little or no resistance.
3. Determine that source has had little or no security training.
4. Use the "Direct Approach" technique by asking pertinent questions from the beginning and making no effort to conceal the purpose of the interrogation from the source.

RENCE:

0-15, Intelligence Interrogation

301-337-1153

USE "FILE AND DOSSIER" INTERROGATION TECHNIQUE

DITION:

You will be given a PW, interrogation plan, interrogation aids and materials, background/behavioral data on PW, FM 30-15, and an interpreter (if necessary).

NDARDS:

1. All information available on PW is scanned for indications that the "File and Dossier" technique will be the primary approach technique.
2. A file is prepared on PW and PW's unit that contains all information deemed necessary.
3. The PW is confronted with the file(s) and its (their) contents, and an attempt is made to convince the PW that there is no valid reason not to cooperate.
4. Leads to use other techniques are exploited.
5. The PW cooperates because of the use of the "File and Dossier" approach.

FORMANCE MEASURES:

1. Examine the data available on the PW to select an approach.
2. Observe the PW without being obvious.
3. Determine whether the "File and Dossier" technique can be used as a primary technique.
4. Prepare a file on PW's unit and PW which may include but is not limited to:
 - a. Educational background of PW.
 - b. Employment record of PW.

- c. Military service of PW.
 - d. Organization of PW's unit.
 - e. Names of people PW may know.
 - f. Recent combat history of PW's unit.
 - g. Padding with extra paper.
5. Confront the PW with the file and dossier in the beginning of the interrogation, pointing out significant information and intelligence that other PWs have given.
6. Read some of the information available under various topics.
7. Convince PW of the pointlessness of resistance in the face of such "voluminous" information.
8. Use opportunities to bolster this approach with other such as "Futility," "We Know All," "Change of Scene," "Emotional," "Pride and Ego," and "Incentive."

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1154

USE "WE KNOW ALL" INTERROGATION TECHNIQUE

DITION:

You will be given a PW, interrogation plan, interrogation aids and material, background/behavioral data on PW, FM 30-15, and an interpreter (if necessary).

NDARDS:

1. All information on the PW is scanned, and the "We Know All" technique is selected as the primary approach.
2. Unit and PW background is memorized, and questions are prepared and put in a logical sequence.
3. Questions put to the PW are answered by the interrogator when the required cooperation is not obtained.
4. Advantage is taken of leads for additional approaches to bolster the "We Know All" approach.
5. The PW cooperates because of the application of the "We Know All" approach.

FORMANCE MEASURES:

1. Examine the data available on the PW to select an approach.
2. Observe the PW without being obvious.
3. Determine whether the "We Know All" technique can be used as a primary technique.
4. Familiarize yourself with the PW's background and that of his unit so you can recall the information readily and without mistakes.
5. Prepare questions to ask the PW based on the information known to you.
6. Sequence the questions in a logical order to give the

impression your knowledge is detailed and covers the fields you are interested in.

7. Ask the questions described in 5 and 6 above.
8. Answer the questions correctly yourself when the PW is slow, refuses to answer, or gives answers known to be false.
9. Ask questions you need answers to when the PW begins to answer questions correctly and freely.
10. Retain some of the prepared questions to test the PW's truthfulness and to maintain the deception that all the information is already known.
11. Convince the PW of the pointlessness of resistance in view of your vast detailed knowledge.
12. Exploit opportunities to bolster this approach with others such as "Futility," "File and Dossier," "Emotional," "Change of Scene," "Pride and Ego," and "Incentive."

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1155

USE "RAPID FIRE" INTERROGATION TECHNIQUE

DITION:

You will be given a PW, interrogation plan, interrogation aids and materials, background/behavioral data on PW, FM 30-15, and an interpreter (if necessary).

NDARDS:

1. All information on the PW is scanned, and the "Rapid Fire" technique is selected.
2. The interrogator prepares a list of questions and familiarizes himself well enough to ask questions quickly and without error.
3. Questions are asked without allowing the PW time to give complete answers.
4. PW is directed to explain discrepancies in his answers.
5. PW is convinced of the senselessness of not answering military questions once he has answered others by accident during the "Rapid Fire" portion.

FORMANCE MEASURES:

1. Examine data available on the PW to select an approach.
2. Observe the PW without being obvious.
3. Determine whether the "Rapid Fire" technique can be used as a primary technique.
4. Prepare a list of questions to ask the PW.
5. Familiarize yourself thoroughly with the prepared questions.
6. Make preparations to use the "Rapid Fire" approach with the "Repetition" technique.

7. Ask the PW the prepared questions in such a way as to interrupt him when he is midway through an answer.

8. Confront the PW with the inconsistencies normally produced in the "Rapid Fire" technique and direct him to explain these inconsistencies in hopes he will divulge other information in his attempt to explain them.

9. Interject militarily pertinent questions once the PW gives indication that he is merely responding to questions and not considering their contents.

10. Use other techniques once the PW has answered some of the military questions but begins to resist answering subsequent questions. This is done to show him how unreasonable it is not to continue answering military questions.

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1156

USE THE "INCENTIVE" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, interrogation aids and materials, background/behavioral data on the PW, access to agencies or ICF items as needed, and an interpreter (if necessary).

STANDARDS:

1. All data on the PW is reviewed for leads to the "Incentive" approach and what incentive(s) is (are) needed.
2. Necessary coordination with appropriate agencies is completed.
3. The Geneva Convention is not violated by the conduct of the "Incentive" approach.
4. The PW is induced to cooperate through the "Incentive" approach.

PERFORMANCE MEASURES:

1. Examine data on the PW to select an approach.
2. Observe the PW without being obvious.
3. Determine whether the "Incentive" approach can be used by identifying--
 - a. What the PW displays a fondness for; e.g., cigarettes, food (beyond that of Geneva Convention requirements), candy, comfort, etc.
 - b. What requests/concerns the PW has made; for example, to guards, medical personnel, other PWs.
4. Initiate the proper coordination to obtain items required to execute the "Incentive" approach and make it convincing.
5. Acquire, if possible, before the interrogation session those items the PW has displayed a fondness for.

6. Use the "Incentive" approach.

7. Identify and exploit opportunities to supplement the "Incentive" approach with others such as "Emotional," "Futility," and "Pride and Ego."

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1157

USE "REPETITION" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, interrogation materials, background/behavioral data on PW, an additional interrogator may be used, FM 30-15, and an interpreter (if necessary).

STANDARDS:

1. All information on PW is scanned, and the "Repetition" technique is selected.
2. A sequence of nonpertinent questions are readied and asked repeatedly in a logical order.
3. Militarily pertinent questions are asked when PW answers the nonpertinent questions in detail.
4. Other approaches are used as necessary.
5. The PW cooperates because the "Repetition" approach was used.

PERFORMANCE MEASURES:

1. Examine data available on the PW to select an approach.
2. Observe the PW without being obvious.
3. Determine whether the "Repetition" approach can be used as the primary technique.
4. Prepare a sequence of some nonpertinent questions which are related in subject matter.
5. Perform the interrogation using the "Repetition" approach using any combination of the methods below:
 - a. Repeating the question immediately.
 - b. Repeating the question and answer immediately.

c. Asking another question, going back to a previous one, then repeating the required question or repeating the required question and answer.

d. Using these techniques together with another interrogator, if possible.

6. Ask military questions when the PW begins to give very detailed answers in the hope of eliminating further repetition of questions.

7. Exploit leads to use other approaches as necessary.

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1158

USE "FRIEND OR FOE" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, an additional interrogator, background/behavioral data on PW, FM 30-15, an interrogation area, and interpreter (if necessary).

STEPS:

1. Information on the PW is reviewed, and it is determined that the "Friend or Foe" technique will work.
2. It is determined that the PW's potential intelligence value warrants the full participation of two interrogators.
3. The two interrogators assume their respective roles.
4. The other interrogator is briefed on the PW and a discussion of appropriate tactics is conducted.
5. The "Friend or Foe" technique is applied and brings about the PW's cooperation.

PERFORMANCE MEASURES:

1. Examine data available on the PW to select an approach.
2. Observe the PW without being obvious.
3. Determine whether the "Friend or Foe" approach can be used as the primary technique by examining the background/behavioral data on the PW for signs of:
 - a. Nervousness.
 - b. Guilt.
 - c. Arrogance or pride.
 - d. Concern for welfare.

EXPLANATORY NOTE: The conduct of some approaches by one interrogator occasionally requires him to say things and exhibit behaviors which are basically opposed. While his approach technique may work, the PW still may have some concern or doubt about the interrogator's sincerity which then could cause the PW to resist further interrogation, especially by that interrogator. The "Friend or Foe" technique eliminates this problem by using two interrogators, one having an opposite behavior personality from the other.

4. Determine if the PW's potential intelligence value merits the full-time participation of the two interrogators.

5. Select which role, "Friend or Foe," you feel competent enough to play.

6. Select another interrogator who will act the opposite role, keeping in mind that the other interrogator must be:

a. Competent to play the assigned role.

b. Available throughout the time to be allotted for the interrogation and, if necessary, recalled to perform again.

7. Brief the other interrogator on the behavior and background data of the PW and, if possible, give him a chance to observe the PW from a concealed position.

8. Discuss with the other interrogator the tactics and content of the "Foe's" role, such as acting:

a. Arrogantly.

b. Unsympathetically.

c. Accusingly.

d. Aggressively.

EXPLANATORY NOTE: Though the "Foe" must play his part completely realistically, both the "Foe" and "Friend" must make absolutely certain that the Geneva Convention is not violated by their ruse. It is particularly cause for concern that the "Foe" not get "caught up" in his own act.

9. Examine the interrogation area with the other interrogator.

10. Choose the place where the "Friend," without himself being seen, can see or hear the interrogation and get his cue for entrance.
11. Allow the "Foe" to begin the interrogation.
12. The "Friend" observes the interrogation from the place chosen.
13. The "Friend" enters on cue and rebukes the "Foe" for his conduct and orders him from the room.
14. The "Friend" attempts to gain rapport with the PW by:
 - a. Calming him down.
 - b. Offering a comfort item.
 - c. Explaining away the conduct of the interrogator.
 - d. Implying that "Friend" and PW have some significant common points.
15. "Friend" implies to the PW that he is too busy to stay without good reason, like cooperation. If rapport begins to decline, "Foe" will have to take over.

REFERENCES:

30-15, Intelligence Interrogation
ICS Subcourse 621 (Revised Edition)

301-337-1159

 USE "PRIDE AND EGO" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, an observation of PW, interrogation materials, background/behavioral data on PW, FM 30-15, OB files, captured documents, and interpreter (if necessary).

STANDARDS:

1. The PW is observed, and data on the PW is checked for indications to use the "Pride and Ego" technique--bearing in mind the dangers of the "Pride and Ego Down" approach.
2. Either the "Pride and Ego Up" or "Pride and Ego Down" is chosen, and the manner of the approach is planned.
3. The interrogator prepares his appearance; e.g., wears a uniform as clean and neat as possible, shines boots, shaves, combs hair.
4. Proper military bearing is maintained while conducting the approach with the PW.
5. Leads to use other approaches are exploited.
6. The PW cooperates because the correct "Pride and Ego" approach is used.

PERFORMANCE MEASURES:

1. Examine the data available on the PW to select an approach.
2. Observe the PW without being obvious.
3. Analyze the results of your observation of the PW and the other data available on him. Give attention to areas of possible sensitivity such as:
 - a. A uniform that is needlessly sloppy or inexplicably neat, considering the average PW of similar rank, circumstances or capture, and time in combat.

- b. Very good or poor posture.
- c. Manner of obedience to orders from the guard.
- d. Level of education and type of military schooling.
- e. Battle history of his unit of assignment.
- f. Circumstances of capture.
- g. Attitudes and behavior of other PWs to him and vice versa.
- h. Documents captured on PW and their contents, especially overlays, map sections, etc.

4. Determine whether the "Pride and Ego Up and Down" approach can be used as the primary technique.

5. Determine what you will say and the manner you will say it.

NOTE: Because of the dangers of totally alienating the PW with a "Pride and Ego Down" technique, it is suggested that it be used either as a last resort or when the interrogator feels absolutely certain the technique will work.

6. Wear as neat and clean a uniform as possible and check posture, shave, and haircut.

7. Maintain good posture and military bearing when in the presence of the PW.

8. Conduct the "Pride and Ego" technique in accordance with your plans.

9. Use opportunities to bolster this approach with others such as "Futility," "We Know All," "Emotional," "Incentive."

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1160

USE "SILENT" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, background/behavioral data on PW, interrogation materials, FM 30-15, and sufficient time to use the "Silent" technique.

STANDARDS:

1. The PW is observed, and data on the PW is checked for indication to use the "Silent" technique.
2. The PW's potential intelligence value is determined to warrant an interrogation using this technique.
3. A determination is made by the interrogator whether he can perform this type of approach.
4. Some questions are readied for when the interrogator decides it is time to break silence.
5. The PW cooperates because the interrogator used the "Silent" approach.

PERFORMANCE MEASURES:

1. Examine the data on the PW to select an approach.
2. Observe the PW without being obvious.
3. Determine whether the "Silent" approach can be used as a primary technique, giving attention to such PW behavior as--
 - a. Nervousness.
 - b. Confidence.
 - c. Silence in previous interrogations.
 - d. Reactions of other PWs to him.

4. Determine whether the PW's potential intelligence value merits the long time that may be necessary to pursue this technique.
5. Determine whether you, as an interrogator, can maintain eye contact with someone for long periods without breaking it or exhibiting nervous behavior such as fidgeting or shifting your legs.
6. Prepare some questions you wish to ask when you feel it would be time to speak.
7. Conduct the "Silent" approach.

REFERENCES:

FM30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1161

USE "CHANGE OF SCENE" INTERROGATION TECHNIQUE

CTIONS:

You will be given a PW, guard (if necessary), background/behavioral data on PW, interrogation materials, and interrogation situation where the PW does not cooperate or has changed from a cooperative attitude.

DARDS:

1. The interrogation area is changed, in accordance with the procedures outlined above, when the PW does not cooperate or changes his attitude from cooperation.
2. The PW cooperates because of the new interrogation situation.

ORMANCE MEASURES:

1. Determine whether the "Change of Scene" technique can be used giving attention to such things as--
 - a. PW's nervousness.
 - b. PW's unwillingness to answer questions in the interrogation area.
 - c. A change in the level or amount of PW's cooperation.
 - d. PW's lack of security consciousness in areas other than that for interrogation; e.g., conversations of a military nature with the guard.
2. Continue the interrogation in a manner consistent with the PW's attitude/behavior and the new environment.

RENCES:

10-15, Intelligence Interrogation
 CS Subcourse 621 (Revised Edition)

301-337-1162

USE "ESTABLISH YOUR ID" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, background/behavioral data on PW, interrogation materials, and an interpreter (if necessary).

STANDARDS:

1. It is determined that the PW is vulnerable to such a ruse as the "Establish Your ID" approach, and a story is created to confront him.
2. The PW cooperates by trying to establish his true identity or his whereabouts during the so-called incident.

PERFORMANCE MEASURES:

1. Examine data on the PW to select an approach.
2. Observe the PW without being obvious.
3. Establish whether the "Establish Your ID" technique can be used by determining the--
 - a. Nervousness of PW.
 - b. Educational level of PW.
 - c. PW's military schooling, rank, and branch.
4. Create a story related to the PW's situation and identifying him as one wanted by higher authorities as the perpetrator of or participant in some very serious offense.
5. Confront the PW with the story and insist that he has been correctly identified.

REFERENCES:

30-15, Intelligence Interrogation
AICS Subcourse 621 (Revised Edition)

301-337-1163

USE THE "EMOTIONAL" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, background/behavioral data on PW, interrogation materials, documents captured on the PW, and an interpreter (if necessary).

STANDARDS:

1. Data on the PW is reviewed, dominant emotions are identified, and the "Emotional" approach is selected.
2. The PW cooperates because the correct emotions are exploited by the interrogation.

PERFORMANCE MEASURES:

1. Examine data on the PW to select an approach.
2. Observe the PW without being obvious.
3. Establish whether the "Emotional" technique can be used by identifying the dominant motions motivating the individual such as--
 - a. Greed.
 - b. Hate.
 - c. Sorrow.
 - d. Fear.
 - e. Love.
 - f. Joy.
4. Establish a method to reinforce the dominant emotions and explain them by using information from captured documents.
5. Apply the "Emotional" technique.

6. Identify and exploit opportunities to use other approach techniques such as "Futility," "We Know All," and "Incentive."

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1164

USE THE "FUTILITY" INTERROGATION TECHNIQUE

CONDITIONS:

You will be given a PW, background/behavioral data on PW, interrogation materials, OB files, documents captured on the PW, situation update, and an interpreter (if necessary).

STANDARDS:

1. Weaknesses are identified by observing the PW, reviewing his background/behavioral data, situation update, OB files, and documents.
2. A course of action is developed that is logical and persuasive.
3. The PW cooperates because the "Futility" approach was used.

PERFORMANCE MEASURES:

1. Examine data on the PW to select an approach.
2. Observe the PW without being obvious.
3. Establish whether the "Futility" technique can be used by identifying exploitable features such as the--
 - a. Circumstances of PW's capture.
 - b. Battle history of the PW's unit.
 - c. Conduct and development of the war/battle in the area of the PW's unit and selected portions of the front.
 - d. Fact that the PW is now in the hands of his enemy.
 - e. Documents captured on the PW.
 - f. Situation update.

4. Prepare a course of action in a logical development and persuasive manner to exploit the weak points of the PW.

5. Use the "Futility" technique.

6. Identify and exploit opportunities to supplement the "Futility" approach with others such as "Emotional," "We Know All," "Pride and Ego," and "Incentive."

REFERENCES:

FM 30-15, Intelligence Interrogation
USAICS Subcourse 621 (Revised Edition)

301-337-1180

IDENTIFY THE NEED TO TERMINATE AN INTERROGATION

CONDITIONS:

You will be given a source, interrogation area, and an interrogation in progress.

STANDARDS:

A determination to terminate the interrogation is made correctly.

PERFORMANCE MEASURES:

1. Determine if the source (or yourself) is physically or mentally unable to continue the interrogation.
2. Determine if the amount of information the source possesses will require several sessions to develop, causing you to reorganize or modify your initial interrogation schedule.
3. Determine if the source has had such a change in attitude that it may be necessary to postpone the interrogation to reevaluate your interrogation efforts.
4. Determine if the interrogation objective has been satisfied and the source possesses no further information of value for this session.
5. Determine if you have lost the initiative or control of the interrogation and a termination is in order for reevaluation of strategy.
6. Determine if there is a need to interrupt or postpone the interrogation for reporting highly perishable information.
7. Determine if a request for your presence elsewhere necessitates a termination or postponement of the interrogation.

REFERENCES:

FM 31-15, Intelligence Interrogation
JCS Subcourse 621 (Revised Edition)

331-915-0306

PREPARE A TRAINING PLAN FOR INDIGENOUS PERSONNEL

CONDITIONS:

You will be given the number of persons to be trained, estimate of the training situation, area study, and intelligence reports.

STANDARDS:

Include analysis of training mission, elements of local training situation, and considerations for systems and organization of training.

PERFORMANCE MEASURES:

1. Analyze training mission.
 - a. Determine the specific tasks for guerrilla force to accomplish.
 - b. Establish training priorities.
 - c. Insure that all requirements can be met within the time specified and with the facilities and personnel available.
 - d. Explain to everyone concerned the mission and operational objectives. The shorter the training time, the greater care that must be taken in defining the objectives of the training mission.
2. Analyze the elements that go into the local training situation.
 - a. Essential training to be conducted: Due to the essential training to be conducted, establish priorities of subject material.
 - b. Personnel: Provide, when necessary, special training in the technical and tactical aspects of conducting guerrilla warfare for resistance leaders.

c. Time: Since training time available is one the most critical factors to be considered, estimate initially the time required to accomplish the training mission. If unexpected progress permits a reduction in time, a favorable effect on the morale of the guerrilla force may result. It must be realized that training time will be lost by individuals as well as by groups. Provide for makeup training as an integral part of the training program.

d. Training facilities: Establish requirements for ranges, rehearsal areas, improvised classrooms, and other training facilities. Physical security is a prerequisite for all training areas. It may be advisable that range and rehearsal areas be located away from the guerrilla base to preclude enemy detection.

e. Training aids: Consistent with the situation, maximum training aids and equipment will be furnished the operational detachment at the time of infiltration. Initially, equipment available for training may be limited.

3. Determine the systems and organization for training.

a. Training systems.

- (1) Centralized.
- (2) Decentralized.
- (3) Individual/OJT.
- (4) Specialized training for selected personnel.

NOTE: Because of the requirement for physical security in the UWOA, the guerrilla forces are generally dispersed over a wide area. Consequently, the system and organization for training normally are decentralized.

b. Organization for training.

- (1) Basic.
- (2) Advanced.
- (3) Individual.
- (4) Unit.

c. Detachment members and their counterparts should plan, organize, and inspect training.

d. Detachment members should supervise each major training area during training.

e. Training should be accomplished primarily by means of practical application to include combat operations.

REFERENCE:

TC 21-5-7, Training Management in Battalions

331-915-0313

PREPARE AN AREA STUDY

CONDITIONS:

You will be given a designated area, OB reports, special intel reports, national intel studies, military and economic mission reports, attachés, sources, pencil, typewriter, paper, and an area study format.

STANDARDS:

Complete the paragraphs and elements that apply to the assigned area and situation IAW the area study guide format.

PERFORMANCE MEASURES:

The purpose of the area study guide is to provide a systematic means for compiling and retaining essential information to support operations. Although the basic outline is general in nature, it is flexible enough to permit detailed coverage of a given area. As time is made available for further study, various subjects should be subdivided and assigned to selected detachment members to produce a more detailed analysis of specified areas of interest.

1. Political Factors.

a. Occupying power.

(1) Number and status of nonnational personnel.

(a) Number of nonnational personnel.

(b) Status of nonnational personnel.

(2) Their influence, organization, and mechanisms of

(a) Influence.

(b) Organization.

(c) Mechanisms of control.

b. National government (indigenous).

(1) Government, international political orientation, and degree of popular support.

(a) Government.

(b) International political orientation.

(c) Degree of popular support.

(2) Attitudes and probable behavior of identifiable segments of the population toward the United States, its allies, and the enemy.

(a) Toward the United States.

(b) Toward its allies.

(c) Toward the enemy.

(3) National historical background.

(a) Significant B.C. history.

(b) Significant A.D. history.

(c) Significant contemporary history.

(d) Significant recent/current chronological events.

(4) Foreign dependence or alliances.

(a) Foreign dependence.

(b) Foreign alliances.

(5) National capital and significant political, military, and economic concentrations.

(a) National capital.

(b) Significant political, military, and economic concentrations.

1. Political concentrations.

2. Military concentrations.

3. Economic concentrations.

c. Political parties/factions.

(1) If formed around individual leaders or based on established organizations.

(2) If a single dominant party exists, is it nationalistic in origin or does it have foreign ties?

(3) Major legal parties with their policies and goals.

(4) Illegal or underground parties and their motivation.

(5) Violent opposition factions within major political organizations.

d. Control and restrictions.

(1) Documentation.

(2) Rationing.

(3) Travel and movement restrictions.

(4) Blackouts and curfews.

(5) Political restrictions.

(6) Religious restrictions.

2. Economy.

a. Technological standards.

b. Natural resources and degree of self-sufficiency.

(1) Natural resources.

(2) Degree of self-sufficiency.

c. Financial structure and dependence on foreign aid.

(1) Financial structure.

(2) Dependence on foreign aid.

d. Current value of money, wage scales.

- (1) Current value of money.
- (2) Wage scales.
- e. The extent and effect of the black market.
- f. Agriculture and domestic food supply.
 - (1) Agriculture.
 - (2) Domestic food supply.
- g. Industry and level of production.
 - (1) Industry.
 - (2) Level of production.
- h. Manufacture of consumer goods.
 - (1) Manufacture of consumer goods.
 - (2) Demand for consumer goods.
- i. Foreign and domestic trade and facilities.
 - (1) Foreign trade and facilities.
 - (2) Domestic trade and facilities.
- j. Fuels and power.
 - (1) Fuels.
 - (2) Power.
- k. Telecommunication and radio systems.
 - (1) Telecommunication system.
 - (a) Telephone system.
 - (b) Telegraph system.
 - (c) Television system.
 - (2) Radio system.
 - (3) Microwave (telephone/radio) systems.

(4) Satellite and laser systems.

1. Transportation adequacy by US standards.

(1) Railroads.

(2) Highways.

(3) Waterways.

(4) Commercial air installations.

m. The control and operation of industry, utilities, agriculture, and transportation.

(1) Control and operation of industry.

(2) Control and operation of utilities.

(3) Control and operation of agriculture.

(4) Control and operation of transportation.

3. Geography.

TE: Divide the country into its various definable subdivisions and analyze each subdivision using the following outline.

a. Subdivision (e.g., coastal plain, mountain plateau, or province/state, etc.)

(1) Areas and dimensions.

(2) Strategic location.

(a) Neighboring countries and boundaries.

(b) Natural defense, including frontiers.

(c) Points of entry and strategic routes.

(3) Climate. Variations from the normal and the months in which they occur. Any extremes in climate that would affect operations.

(a) Temperature.

(b) Rainfall and snow.

1. Rainfall.

2. Snow.

(c) Wind and visibility.

1. Wind.

2. Visibility.

(d) Light data (BMNT, EENT, sunrise, sunset, moonrise, and moonset).

(e) Seasonal effect of the weather on terrain and visibility.

1. Effect on terrain.

2. Effect on visibility.

(4) Relief.

(a) General direction of mountain ranges or ridge lines and whether hills and ridges are dissected.

(b) General degree of slope.

(c) Characteristics of valleys and plains.

(d) Natural routes for, and natural obstacles to, cross-country movement.

1. Routes for cross-country movement.

2. Obstacles to cross-country movement.

(e) Location of areas suitable for guerrilla bases, units, and other installations.

(f) Potential landing and drop zones and other reception sites.

(5) Land use. Note any peculiarities, especially--

(a) Former heavily forested areas subjected to widespread cutting or dissected bypaths and roads.

(b) Pastureland or wasteland which has been reforested.

(c) Former wasteland or pastureland that has been resettled and cultivated and is now being farmed.

(d) Former rural countryside that has been depopulated and allowed to return to wasteland.

(e) Former swampland or marshland that has been drained.

(f) Former desertland or wasteland now irrigated and cultivated.

(g) Lakes created by dams.

(6) Drainage (general pattern).

(a) Main rivers, direction of flow. Characteristics of rivers and streams such as width, current, banks, depths, kinds of bottoms, obstacles, etc.)

(b) Seasonal variation, such as dry beds and flash floods.

(c) Large lakes or areas of many ponds or swamps (potential LZs for amphibious aircraft).

(7) Coast. Examine primarily for infiltration, filtration, and resupply points.

(a) Tides and waves.

(b) Winds and current.

(c) Beach footing.

(d) Covered exit routes.

(e) Quiet coves and shallow inlets or estuaries.

(8) Geological basics. Types of soil and rock formations (include areas for potential LZs for light aircraft).

(9) Forests and other vegetation.

(a) Natural and cultivated.

(b) Types, characteristics, and significant variations from the norm at different elevations.

(c) Cover or concealment to include density; seasonal variation.

(10) Water. Ground surface; seasonal, potability.

(11) Subsistence.

(a) Seasonal or year-round.

(b) Cultivated (vegetables, grains, fruits, and nuts).

(c) Natural (berries, fruits, nuts, and herbs).

(d) Wildlife (animals, fish, and fowl).

b. Subsequent subdivision with annotated paragraphs as reflected above (where applicable).

4. Civilian Populace.

NOTE: Particular attention should be given to those areas in a country where the local inhabitants have peculiarities and are at considerable variance in one or more ways from the normal national way of life.

a. Total and density.

(1) Total population: _____.

(2) Density per square kilometer/mile: _____.

b. Basic racial stock and physical characteristics.

(1) Types, features, dress, and habits.

(2) Significant variations from the norm.

c. Ethnic/religious groups. These groups should be analyzed only if of sufficient size, strength, and established bonds to constitute a dissident minority of some consequence. (NOTE: Delineate whether a national religion definitely shapes the actions and attitudes of the individual.)

(1) Location or concentration.

(2) Basis for discontent and motivation for change.

(3) Opposition to majority or the political regime.

(4) Any external or foreign ties of significance.

d. Attitudes toward the--

(1) existing regime or occupying power.

(2) Resistance movement.

(3) United States and its allies.

e. Division between urban, rural, or nomadic groups.

(1) Large cities and population centers.

(a) Large cities including population figure and census date.

(b) Identify large population centers by name or area dimensions, including population figures and census date.

(2) Rural settlement patterns.

(3) Areas and movement patterns of nomads or migratory workers/factions.

f. Standard of living levels.

(1) Primarily note the extremes away from average.

(2) Class structure (degree of established social stratification and percentage of populace in each class).

g. Cultural (educational) levels.

(1) Primarily note the extremes away from average.

(2) Class structure (degree of established social stratification and percentage of populace in each class).

h. Health and medical standards.

(1) General health and well-being.

(2) Common diseases.

(3) Standard of public health.

(4) Medical facilities and personnel.

(a) Medical facilities.

(b) Medical personnel.

(5) Potable water supply.

(6) Sufficiency of medical supplies and equipment.

i. Traditions and customs (particularly taboos). (Note wherever they are sufficiently strong and established that they may influence an individual's actions or attitude even during a war situation.)

5. Enemy/National Security Forces.

NOTE: Conventional military forces (Army, Navy, Air Force) and internal security forces (including border guards). Nonnational or occupying forces, as well as national (indigenous) forces, are analyzed using the following outline.

a. National (indigenous) forces.

(1) Power potential statistics.

(a) Area (square miles/kilometers): _____

(b) Population: _____

(c) Military service: Army, _____ years; Navy, _____ years; Air Force, _____ years.

(d) Total armed forces: _____

(e) Gross national product or estimated GNP (date): _____

(f) Defense expenditure (date): _____

(2) Strategic nuclear forces.

(a) Offensive.

(b) Defensive.

(3) Army.

(a) Army total strength: _____

(b) Organization.

1. Total number of DIVISIONS by type (e.g.,
 tank/armored, motorized/mechanized, infantry/airborne,
 armoured/assault/attack).

2. Total number of BRIGADES/REGIMENTS
 independent/separate) by type (e.g., same as in above example).

3. Total number of SPECIAL TROOPS/
 UNITS/ORGANIZATIONS by type (e.g., commando, fusilier, ranger,
 special forces, etc.).

4. Major equipment inventory.

a. Total number of TANKS by
 nomenclature (e.g., T-62, M-60A3, etc.).

b. Total number of COMBAT INFANTRY
 VEHICLES by nomenclature (e.g., BMP, M-113, etc.).

c. Total number of CANNON/MORTARS/
 MISSILES/ROCKETS SYSTEMS by nomenclature (e.g., 180mm field gun
 M-23, 155mm SP how M-109A1, etc.).

d. Total number of AIR DEFENSE SYSTEMS
 by nomenclature (e.g., ZSU-23-4SP, SA-9, ROLAND II, etc.).

(c) Total number of RESERVES.

(4) Navy.

(a) Navy total personnel strength: _____

(b) Total number of MAJOR SYSTEMS by type (e.g.,
 aircraft/helicopter carriers, battleships, cruisers, destroyers,
 minesweepers, guided missile ships/boats, submarines, torpedo
 boats, patrol gunboats, etc.).

(c) Total number of RESERVES.

(5) Air Force.

(a) Air Force total personnel strength: _____

(b) Total aircraft strength: _____

(c) Major aircraft types.

1. Total number of INTERCEPTORS by
 nomenclature (e.g., MiG-25, F-14, F-16, etc.).

2. Total number of FIGHTER BOMBERS by nomenclature (e.g., MiG-23, MiG-21, F-4E, A-7D, etc.).

3. Total number of BOMBERS by nomenclature (e.g., I1-28, B-52, etc.).

4. Total number of TRANSPORTS by nomenclature (e.g., An-24, C-141, etc.).

5. Total number of HELICOPTERS by nomenclature (e.g., Mi-24, AH-1S, etc.).

(d) Total number of RESERVES.

(6) Marines.

(a) Marine total personnel strength: _____

(b) Organization (address as in Army above).

(c) Total number of RESERVES.

(7) Paramilitary forces (type and strength).

(8) Morale, discipline, and political reliability.

(9) Organization and basic deployment.

(10) Uniforms and unit designations.

(11) Ordinary and special insignia.

(12) Overall control mechanism.

(13) Chain of command and communication.

(14) Leadership (officer corps).

(15) Nonnational surveillance and control over indigenous security forces.

(16) Training and doctrine.

(17) Tactics (seasonal and terrain variations).

(18) Equipment, transportation, and degree of mobility.

(19) Logistics.

(20) Effectiveness (any unusual capabilities or weaknesses).

(21) Weaknesses in the internal security system.

(22) Past and current reprisal actions.

(23) Utilization and effectiveness of informers.

(24) Influence on and relations with the local populace.

(25) Psychological weaknesses.

(26) Recent and current activities of the unit.

(27) Counterguerrilla activities and capabilities with particular attention to reconnaissance units, special troops (airborne, mountain, ranger), rotary-wing or vertical-lift aviation units, counterintelligence units, and units having a mass CBR delivery capability.

(28) The location of all known guardposts or expected wartime security coverage for all types of installations, particularly along main lines of communication (LOC) (railways, highways, and telecommunication lines) and along electrical powerlines and POL lines.

(29) Exact location and description of the physical arrangement and particularly of the security arrangements of all forced labor or concentration camps and any potential PW enclosures.

(30) All possible details, preferably by localities, of the types and effectiveness of internal security controls, including checkpoints, identification cards, passports, and travel permits.

b. Nonnational (occupying) forces (address same as 5a above).

6. Resistance Movement.

a. Guerrillas.

(1) Disposition, strength, and composition.

(2) Organization, armament, and equipment.

(3) Status of training, morale, and combat effectiveness.

(4) Operations to date.

(5) Cooperation and coordination between various existing groups.

(6) General attitude toward the United States, the enemy, and various elements of the civilian populace.

(7) Motivation of the various groups and their receptivity.

(8) Caliber of senior and subordinate leadership.

(9) Health of the guerrillas.

b. Auxiliaries and the underground.

(1) Disposition, strength, and degree of organization.

(2) General effectiveness and type of support.

(3) Motivation and reliability.

(4) Responsiveness to guerrilla or resistance leaders.

(5) General attitude toward the United States, the enemy, and various guerrilla groups.

c. Logistic capability.

(1) Availability of food stocks and water to include any restrictions for reasons of health.

(2) Agricultural capability.

(3) Type and availability of transportation of all categories.

(4) Types and location of civilian services available for manufacture and repair of equipment and clothing.

(5) Supplies locally available to include type and amount.

(6) Medical facilities to include personnel, medical supplies, and equipment.

(7) Enemy supply sources accessible to the resistance.

7. Targets.

(The objective in target selection is to inflict maximum damage on the enemy with minimum expenditures of men and material. Initially, the operational capabilities of a guerrilla force may be limited in the interdiction or destruction of enemy targets. The target area and specific points of attack must be studied, carefully analyzed, and priorities established. In general, targets are listed in order of priority in accordance with mission requirements.)

a. Railroads.

(1) Considerations in the selection of a particular line.

(a) Importance, both locally and generally.

(b) Bypass possibilities.

(c) Number of tracks and electrification.

(2) Location of maintenance crews, reserve repair rails, and equipment.

(3) Type of signal and switch equipment.

(4) Weak points.

(a) Unguarded small bridges or culverts.

(b) Cuts, fills, overhanging cliffs, or undercutting streams.

(c) Key junctions or switching points.

(d) Tunnels.

(5) Security system.

NOTE: Targets listed below are divided into subsection generally as shown above. Differences in subsections are based on peculiarities of the particular target system.

b. Telecommunications.

- c. POL.
- d. Electric power.
- e. Military storage and supply.
- f. Military headquarters and installations.
- g. Radar and electronic devices.
- h. Highways.
- i. Inland waterways—canals.
- j. Seaports.
- k. Natural and synthetic gaslines.
- l. Industrial plants.

REFERENCES:

ST 31-201, Special Forces Operations, Nov 78 (app A).

331-915-0314

PREPARE AND PRESENT A BRIEFING

ITIONS:

You will be given a subject for briefing, information to be presented, reference material, and annex I, FM 101-5.

DARDS:

1. Must be presented in a clear, concise, and logical manner.
2. Must be current and accurate.
3. Must meet the informational needs of the audience.

ORMANCE MEASURES:

1. Four Types of Briefings.
 - a. Information briefing is to inform.
 - b. Decision briefing is to obtain a decision.
 - c. Staff briefing is to exchange information.
 - d. Mission briefing is to review important details.
2. Prepare Schedule for Definite Action.
 - a. Complete the analysis of the situation.
 - b. Prepare a preliminary outline.
 - c. Determine the requirements for training aids, assistants, and records.
 - d. Edit or redraft or both.
 - e. Schedule rehearsals.
 - f. Arrange for final review by responsible authority.

3. Write an analysis of the audience to be briefed, the subject to be briefed, and physical facilities for presenting a briefing.

a. Analyze the audience.

(1) How many are there?

(2) Nature.

(a) Who comprises the audience?

(b) Is only one service involved?

nationals? (c) Multiservice? Civilians? Foreign

(d) Who are the ranking members?

(e) What are their official positions?

(f) Where are they assigned?

(g) How much professional knowledge of the subject do they have?

(h) Are they generalists or specialists?

(i) What are their interests?

(j) Personal preferences?

(k) What is the anticipated reaction?

b. Analyze the subject:

(1) What is the specific subject?

(2) What is the desired coverage?

(3) How much time will be allocated?

c. Analyze the physical facilities.

(1) Where will the briefing be presented?

(2) What arrangements will be required?

(3) What are the visual aid facilities?

(4) What are the deficiencies?

(5) What actions are needed to overcome these deficiencies?

4. Prepare the Briefing.

- a. Collect materials.
- b. Prepare first draft.
- c. Revise first draft/edit.
- d. Plan use of audiovisual aids.
- e. Practice; rehearse with assistants and audiovisual

5. Deliver the Briefing.

a. Present the briefing confidently in a relaxed manner; have a forceful delivery, clearly enunciated, and based on complete knowledge of the subject.

b. Maintain a relaxed but military bearing.

c. Use natural gestures and movements, but avoid distracting mannerisms.

d. The briefer's delivery is characterized by conciseness, objectivity, and accuracy.

REFERENCE:

101-5, Staff Officer's Field Manual: Staff Organization and Procedures, Jul 72 (annex I).

331-915-0323

PLAN AND ASSIST IN THE ORGANIZATION OF GUERRILLA FORCES

CTIONS:

You will be given a mission, pencil and paper, number of guerrillas, and type of weaponry in UWOA.

ARDS:

Include primary considerations with basic functions and operations, principles of organization, and principles affecting the size of units.

RMANCE MEASURES:**1. Primary Considerations:**

a. Regardless of the degree of organization, certain basic functions and operations are necessary.

- (1) Unit organization.
- (2) Security and intelligence systems.
- (3) Communication systems.
- (4) Administrative systems.
- (5) Logistical support systems.
- (6) Training programs and facilities.
- (7) Planning and execution of combat operations.
- (8) Expanding the forces.

b. Guerrilla organizations cannot always be classified according to fixed formats. Their missions and tactics must be considered along with the influence of available manpower and material.

c. Organizing along military lines makes direction and control easier; however, an organization that is too rigid can reduce the flexibility that guerrilla organizations must have.

2. The Principles of Organization.

a. Command and control. Simplicity, flexibility, and divisibility are essential. Leaders must delegate authority to capable and loyal subordinates. From the highest to the lowest member of the unit, each man must know to whom he is responsible and who is responsible to him. No man should be responsible to more than one superior. No superior officer should have more subordinate units that he can effectively direct and coordinate.

b. Basic organization. The basic structure of TOE of the unit must correspond to the conditions of the terrain, climate, and the area commander's objectives.

(1) Self-containment is essential in a guerrilla unit. It must have its own communication system, obtain its own local supplies, and conduct its own reconnaissance.

(2) The unit must have strong firepower and offensive armament capable of inflicting great losses within a short period of time.

(3) Heavy weapons units should be easily divisible into sections.

(4) Smaller units should have independence of action.

(5) The merging of small units into the larger organization should be done without causing disharmony.

(6) Knowledge of the location and activities of other units must be confined to the one or two persons charged with internal liaison responsibility.

(7) The force for which any subordinate guerrilla leader may be responsible will probably be fewer than 75 men, perhaps 15 to 20. In the latter stages of development and increased operations, this force will rarely exceed battalion size with personnel numbering from 200 to 500.

3. Factors Affecting the Size of Units.

a. Area. The size and physical aspects of the area of operation and the availability of suitable bases will limit the number of guerrillas.

b. Missions. A guerrilla unit should include no more men than are necessary for the accomplishment of its overall mission.

c. Political considerations. Political ambitions should never influence the leader to build up his organization beyond the point of efficiency for the sake of sheer numbers. If this situation occurs, the team can control its expansion through the judicious use of supplies. The political stature is more enhanced by success in operations than by an increasing number of followers.

d. Enemy control. Where controls are rigid and the enemy is strong, security, mobility, and dispersion are strong factors favoring small unit organization.

e. Available personnel. The size of the guerrilla unit depends on the availability of willing volunteers. One must consider the ratio of expected recruitment to the total population of a town or village. The complete disappearance of a town's able-bodied men would, at the very least, arouse the enemy's suspicions and provoke reprisals against the remaining populace.

f. Supply and support capability. Guerrillas should not be assembled in such numbers that supplying and supporting them becomes a major problem. If the guerrilla commander allows his organization to become burdened with too many personnel to feed, shelter, or equip, he may be forced to make moves or take actions that are tactically unsound.

g. Social customs. Native traditions may have a bearing on the suitability of certain tactics, weapons, and disciplinary principles. These factors in turn may affect the size of the unit.

RENCE:

1-201, Special Forces Operations, Nov 78 (chap 5, sec II)

331-915-0346

CLASSIFY A SET OF FINGERPRINTS

CTIONS:

You will be given a set of readable fingerprints and a magnifier.

ARDS:

The prints will be classified correctly.

ORMANCE MEASURES:

1. Before pattern definition can be understood or impressions classified, it is necessary to understand the meaning of a few technical terms used in the fingerprint identification system.

a. A bifurcation is the forking or dividing of one line into two or more branches. See figure 1.

b. A divergence is the spreading apart of two lines which have been running parallel or nearly parallel. See figure 2.

c. Type lines are the two innermost ridges which start parallel, diverge, and surround, or tend to surround, the pattern area. They are used to locate the delta. Type lines are not always continuous ridges. In fact, they are more often found to be broken. When there is a definite break in a type line, the ridge immediately outside of it is considered to be its continuation.

(1) According to the narrow meaning of the words in fingerprint parlance, a single ridge may bifurcate, but it may not diverge. Therefore, with one exception, the two forks of a bifurcation may never constitute type lines. The exception is when the forks run parallel after bifurcating and then diverge. In such a case, the two forks become the two innermost ridge lines required by the definition. In figure 3, the ridges marked T-T are the type lines, while the ridges marked A-A are not the type lines because the forks of the bifurcation do not run parallel to each other.

(2) Angles are never formed by a single ridge but by the abutting of one ridge against another. Therefore, an angular formation cannot be used as a type line. In figure 4, ridges A and B join at an angle. Ridge B does not run parallel with ridge D; ridge A does not diverge. Ridges C and D, therefore, are the type lines.

d. The pattern area is that part of a fingerprint impression enclosed within the type lines. This area is the only part of the impression with which we are concerned in regard to interpretation and classification. It is present in all patterns. In arches and tented arches, it is enough of the print to be able to classify the impression. Arches do not have clearly defined pattern areas. In the pattern areas of loops and whorls appear the cores and deltas. See figures 5 through 8.

e. The core is the innermost recurving ridge line of a fingerprint impression. It will normally be located in the approximate center of the pattern. See figures 5 through 8.

f. The delta is the first print characteristic located in front of and nearest to the divergence of the type lines. This point may be represented by any print characteristic; such as a fork, a ridge ending, a ridge segment, or a curving ridge. See figures 5 through 8.

NOTE: In all figures C is core, D is delta, and T are type lines. Be sure you are looking at the ridge lines and not the printing surface. Normally, the ridge lines will be darker than the printing surface as they are in this manual.

2. In the FIS, fingerprints are resolved into three main types: arches, loops, and whorls. Arches and loops are subdivided into two distinct patterns for classification purposes so that in the FIS there are five patterns with which we will be concerned: arch, tented arch, finger loop, thumb loop, and whorl.

a. In an arch, the ridges enter one side of the impression and tend to flow out the other side with a gentle rise in the middle. There may be various ridge formations in the pattern. Arches do not have a core. All ridges flow, or tend to flow, with a slight rise in the center from one side of the pattern to the other without any ridges trying to recurve to the same side they entered. An arch is an easily identifiable print providing you do not get confused between ridges that have bifurcations and an innermost recurving ridge. The best way to determine this is by looking closely at the place where the

BIFURCATION

Figure 1

DIVERGENCE

Figure 2



Figure 3

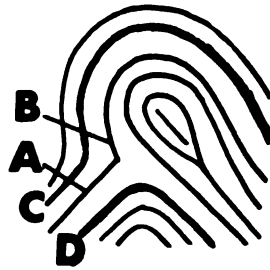


Figure 4

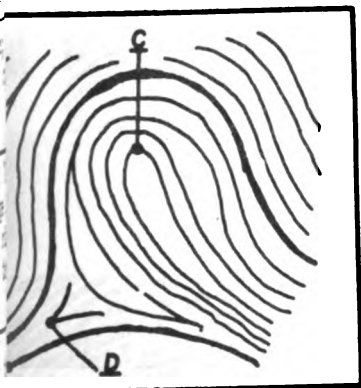


Figure 5

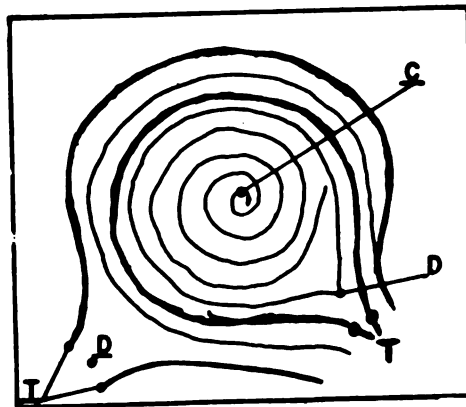


Figure 6



Figure 7



Figure 8

ridge starts what appears to be a recurve. When the ridges have sharp angles, they are either bifurcations or two ridges running into each other; they are not a recurving ridge line. Figures 9 through 13 are examples of arch type patterns.



Figure 9



Figure 10



Figure 11



Figure 12



Figure 13

NOTE: Although at first glance these impressions may look alike, a closer investigation will prove that all of them are different.

b. In the tented arch, most of the ridges enter from one side of the impression and flow or tend to flow out the other side, as in the arch. However, the ridge or ridges at the enter of the impression have a definite upthrust which can be compared to the center pole of a tent and from which this pattern derives its name. There are no recurving ridges in a tented arch. Figures 14 through 17 are examples of tented arches.



Figure 14



Figure 15



Figure 16



Figure 17

NOTE: Arches and tented arches constitute about 5 percent of all patterns found in fingerprints.

c. A loop is that type of pattern found on fingerprint impressions in which one or more of the ridges enter the impression from either side, flow toward the center of the impression, recurve upon themselves, and tend to exit on the same side of the impression from which they entered. Loops are divided into two categories: finger loops and thumb loops. Whether a loop is on a finger or thumb has nothing to do with what the print is. The rule for determining whether a loop print is a finger loop or thumb loop is based upon the direction of the open ends of the loop in direct relationship to the finger or thumb on which the print appears. Loops have only one core and one delta. Figures 18 through 21 are loops.

(1) Finger loop. The ridges enter the print from the side of impression toward the little finger, form a loop, and depart the impression from the same side.

(2) Thumb loop. The ridges enter the print from the side of the impression toward the thumb, form a loop, and depart the impression on the same side.

d. For our purposes, any print that is not an arch, tented arch, finger loop, or thumb loop is classified as a whorl. Whorls always have two or more deltas and may have more than one core. In some prints, the delta may be located on the extreme edge of the impression and is not revealed unless the finger is fully rolled from nail edge to nail edge. In cases where this is not done, an incorrect interpretation of the print may be made. Figures 22 through 25 are typical whorl patterns.

NOTE: If figures 18 and 20 were on the left hand, they would be finger loops, while if they were on the right hand, they would be thumb loops. The reverse is true of figures 19 and 21. Loops are the most common type of fingerprint impressions. Approximately 65 percent of all prints are loops.



Figure 18



Figure 19



Figure 20



Figure 21



Figure 22

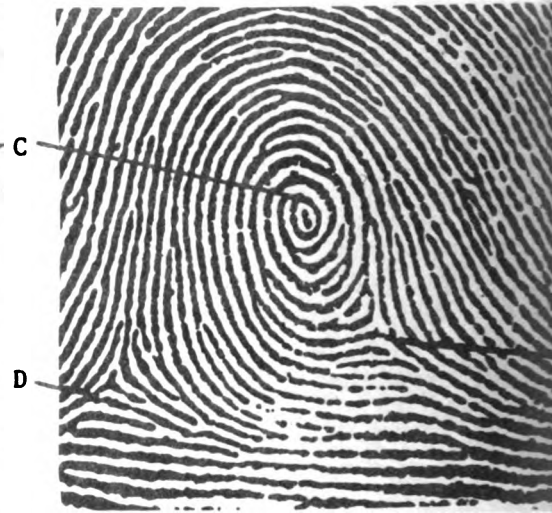


Figure 23



Figure 24

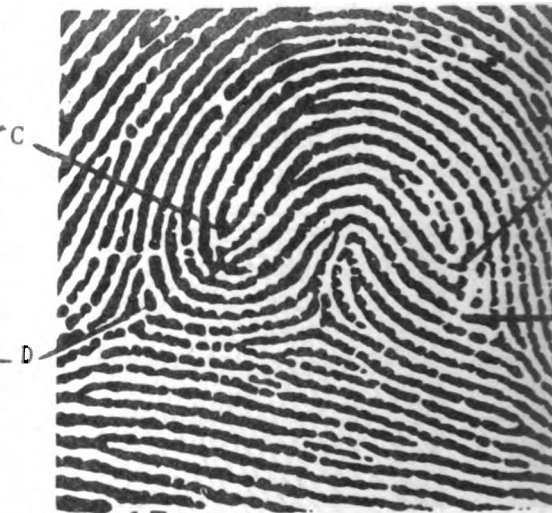


Figure 25

NOTE: All impressions have two deltas. Figures 22 and 23 have only one core, while figures 24 and 25 have two cores. Approximately 30 percent of all prints are whorls.

3. No matter how definite fingerprint rules and pattern definitions are made, there will always be some patterns causing doubt as to which classification they should be given. The primary reason for this is that no two fingerprints will ever appear which are exactly alike. Other reasons are differences in the degree of judgment and interpretation of the individual analyzing the fingerprints. The correct interpretation of patterns which are questionable because of their resemblance to more than one pattern type is determined by the analyst's proficiency in determining focal points, cores, and deltas. The more skilled the analyst is in reading the prints, the fewer questionable patterns are encountered. For positive identification, there is no allowable error for the type of print. It can be questionable and stated as such in the FIS message. This helps to identify the individual in that it is a questionable print.

ERENCE:

31-194, Fingerprint Identification System, Mar 78 (chap 3)

331-915-0347

TAKE A RIDGE COUNT

CONDITIONS:

You will be given a fingerprint that is either a loop or a whorl, a fine line, and a magnifier.

STANDARDS:

The ridge count will be done correctly IAW ST 31-194.

PERFORMANCE MEASURES:

1. The next identifying feature of the fingerprint after the pattern has been determined is the number of ridges that occur between the core and the delta. To obtain the ridge count a line is drawn from the point of nearest tangency on the core through the delta. For this purpose it is most helpful to use a readymade line scribed on a piece of glass or any transparent material. This line may be shifted around until proper alignment has been achieved. Figure 1 shows the placement of the reference line on some typical patterns.

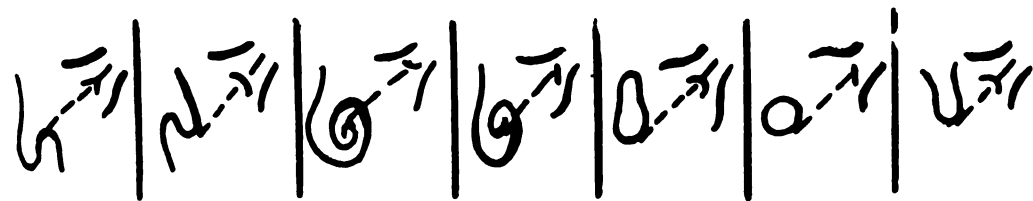


Figure 1. Placement of the reference line.

2. In the ridge count there are four rules to be followed: (a) A ridge count must be reported on all fingers; (b) A ridge count is conducted only on loops and whorls; (c) Every line which crosses or touches the reference is counted; (d) The count starts on the core which receives the number one and ends at the delta which receives the last number.

a. Inasmuch as arches and tented arches have no core, ridge count cannot be conducted on them since there is no way to orient the reference line. When these patterns occur, they are assigned a ridge count of ZERO. Missing fingers are also assigned a ridge count of ZERO since it is impossible to conduct a ridge count on them. When a scar or mutilation appears between the core and the delta, making a ridge count impossible, a ridge count of ZERO will be assigned to that finger.

b. With the reference line properly oriented on the print, the ridge count is made by counting all of the ridge lines that cross or touch the reference line, starting with the core as ridge count number one and ending with the delta as the last ridge counted. Figures 2 and 3 illustrate this technique on a loop and whorl respectively.

NOTE: In Figure 2, lines 8 and 9 and 14 and 15 received a double count because the reference line crosses at the point where a ridge bifurcates. In keeping with rule number 3, each of the lines formed by the bifurcation receive a count since they touch the reference line. Also notice that lines 5 and 6 and 10 and 11 of figure 2 and ridge lines 8 and 9 of figure 3 are formed by a ridge line bifurcating on one side of the reference line and reclosing on the other side of the reference line. Yet at the point where they encounter the reference line, they are two distinct ridges and each receives a count.

3. Since whorl patterns have more than one delta, the FIS has supplied a standard rule as to which delta is to be used. You will use the leftmost delta and the core nearest it unless there is a crease or mutilation on that side which would prevent an accurate count. Then the count is made between the rightmost delta and the core nearest to it; this fact must be reported in the message transmitting the data. Figures 4 through 6 show the placement of the reference line on typical patterns.

4. Under normal conditions, the least ridge count would be two, one for the core and one for the delta. On rare occasions patterns may be encountered in which the core and the delta are the same as shown in figures 7 and 8. In these rare situations, a ridge count of one is possible.

5. A small, two-power magnifying glass will be necessary for ease and accuracy of print interpretation although it is possible to read a perfectly clear print without magnification in an emergency. The magnifier should be mounted on some type of stand to allow the analyst to have both hands free in making a ridge count.

6. Field experience has shown that two individuals counting the ridges on the same print may make an error of two counts; therefore, an error of plus or minus two is allowable in the ridge count comparison.

7. Figures 9 through 18 represent the 10 fingerprint impressions of an individual. Classify the pattern and conduct a ridge count on these impressions. Remember, there is no allowable error in pattern classification, but an error of plus or minus two counts is allowable in the ridge count.

REFERENCE:

31-194, Fingerprint Identification System, Mar 78 (chap 4)

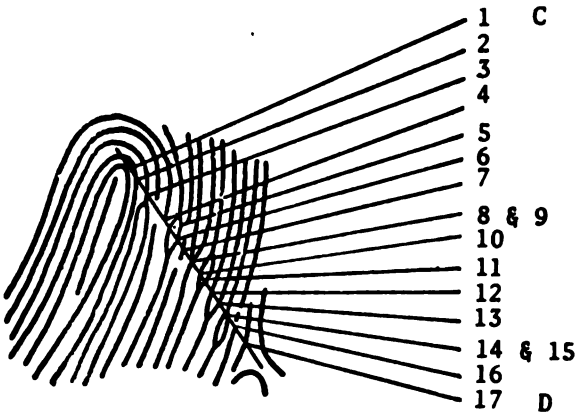


Figure 2.
Ridge count,
loop.

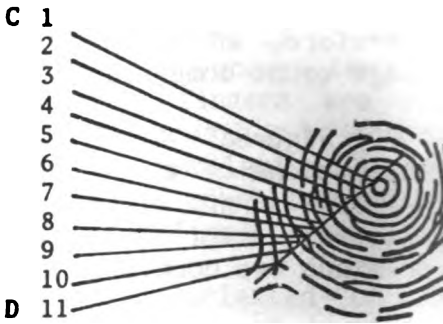


Figure 3.
Ridge count,
whorl.



Figure 4
Loop pattern.



Figure 5
Whorl pattern
(normal).



Figure 6
Whorl pat
(mutilated)



Figure 7

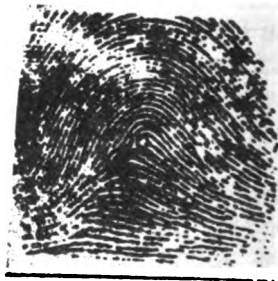


Figure 8



Figure 9. Finger 1.

Figure 10. Finger 2.

Figure 11. Finger 3.



Figure 12. Finger 4.

Figure 13. Finger 5.

Figure 14. Finger 6.



Figure 15. Finger 7.

Figure 16. Finger 8.

Figure 17. Finger 9.



Figure 18. Finger 10.

Finger 1 _____ Finger 6 _____

Finger 2 _____ Finger 7 _____

Finger 3 _____ Finger 8 _____

Finger 4 _____ Finger 9 _____

Finger 5 _____ Finger 10 _____

331-915-0348

TAKE A FAULT COUNT

CONDITIONS:

You will be given a fingerprint that is either a whorl or a loop, a magnifier, and a template.

STANDARDS:

The fault count will be done correctly IAW ST 31-194.

PERFORMANCE MEASURES:

1. Having compared an individual's fingerprint impressions with the pattern classification and ridge count received from higher headquarters, it will normally be possible to determine if the individual is who he claims to be. Occasionally, positive identification may still not be determined because of mutilations, slight differences in interpretation, or other reasons. In such cases, you can request that the higher headquarters transmit additional fingerprint data. This additional information is the fault count which is the description of faults appearing on ridges in a specific part of the pattern area of the print. The fault count will be made on only two fingers at a time.

2. Faults are peculiar formations occurring on ridges within the pattern area which tend to interrupt the continuity of impressions and are the distinguishing features of fingerprints. Faults appear in only five forms as shown in figure 1.

a. Forks—a ridge that splits (bifurcates) into two ridges.

b. Ends—ridges that end abruptly.

c. Islands—ridges that bifurcate and then reclose forming an island.

d. Segments—short fragments of ridges standing alone.

e. Breaks—separation or interruption of a ridge on the same plane.

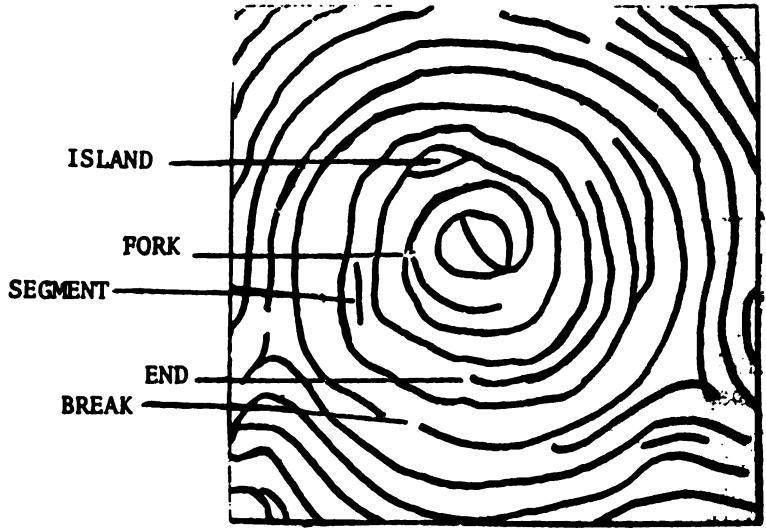


Figure 1. Faults.

3. Faults appear frequently and haphazardly throughout the pattern areas of fingerprints. Their use as authenticating data for the FIS requires an accurate method for recording the description of the faults and their location in the pattern area. A template is used in the fault count to provide a means of orienting the critical faults. The template is a transparent medium upon which reference lines are inscribed. The reference lines are three parallel lines drawn 2 millimeters apart and closed at one end by a line drawn perpendicular to the parallel line, as illustrated in figure 2. The overall length of the parallel lines need be no longer than that required to reach the core of an impression to its delta.

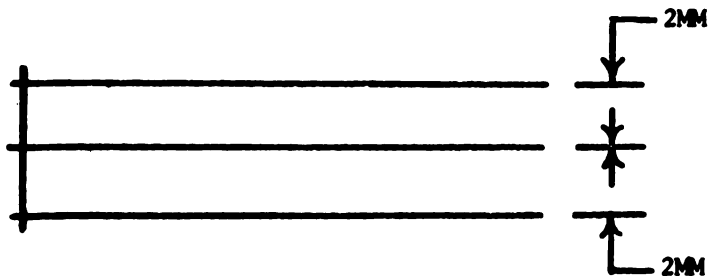


Figure 2. Reference lines.

4. The proper position of the template on the loop and whorl patterns is with the center line tangent to the core and through the delta in the same manner that the reference line is placed for the ridge count. The perpendicular line of the template is placed so that it intersects the core at the point of tangency of the center line as shown in figures 3 through 5.



Figure 3. Loop.



Figure 4. Whorl.



Figure 5. Loop.

5. With the template correctly positioned, the only faults to be considered for the fault count are those which appear within the 4 millimeter area bounded by the right and left parallel lines, below the cross line intersecting the core and above the delta.

- a. Faults occurring outside these limits are not counted.
- b. Faults appearing on the core are not counted.
- c. Faults appearing on the delta are not counted.

d. When a fault is partly inside and partly outside the limits of the template, its description will be limited to only that part of the fault which is inside the limits of the template.

6. The numbering of faults is governed by the ridge count. These rules apply:

- a. Faults appearing on ridges that cross or touch the center line of the template receive the same number as the ridge on which they occur.

b. When more than one fault appears on the same ridge line, every fault on that ridge receives the same number.

c. Faults appearing on the ridge lines that do not cross or touch the center line of the template receive the number of the ridge immediately above them.

7. The two columns created by the three parallel lines of template provide a means of locating the faults, as well as adding direction to their other characteristics. Looking at the template with the core oriented away from the viewer, the two columns are described as the left-hand column and the right-hand column. The fault descriptions are composed of two and three letters. The first letter of the abbreviation is always the type of fault (initial); the second letter states the location of the fault (initial) that is in the left column, the right column, or on the center line; the third letter, when there is a third letter, gives direction (initial) in which a fork opens, the direction in which an end points, or in which column the greater parts of segment, island, or breaks appear when they are on the center line but slightly off center.

a. When more than one fault appears on a ridge line or has the same number, those faults appearing in the left-hand column of the template will be reported first, those in the right-hand column second, and those that touch the center line last. Each ridge line will be completely fault counted prior to moving on to the next ridge line.

b. When two or more faults have the same number and location, the direction or movement of the fault will be used to determine the sequence of reporting. In these circumstances, faults pointing to the left are reported first, those pointing to the right second, and those with no direction last.

c. To clarify these reporting procedures, all faults (regardless of type) with the same number are reported in the following sequence:

- (1) Those in the left column pointing left (LL).
- (2) Those in the left column pointing right (LR).
- (3) Those in the left column with no direction—segments, breaks, and islands (L).
- (4) Those in the right column pointing left (RL).
- (5) Those in the right column pointing right (RR).

(6) Those in the right column with no direction (R).

(7) Those on the center line pointing left—forks or ends—or with the major portion of the fault in the left-hand column—segments, breaks, and islands (CL).

(8) Those on the center line pointing right or with the major portion of the fault in the right-hand column (CR).

(9) Those directly on the center line with no direction or with no part of the fault offset by a majority to either side of the center line (C).

8. The core and the delta will never have a reportable fault. No fault will ever be the same number as the delta. A fault may have the number one if it appears between the core and ridge line number two.

9. Figure 6 is a line drawing of the critical part of the pattern area on which the template is correctly placed. The drawing illustrates many of the variations of faults that may appear in fingerprint impressions and the method used for numbering and describing the faults. The abbreviations used for the fault/descriptions are explained in the legend to the left of the illustration. Each of the faults illustrated in figure 6 is discussed below:

a. 2FLL—fork left left, indicates a fork on the second ridge line in the left column of the template opening to the left.

b. 3ELL—end left left, indicates an end on the third ridge line in the left column of the template pointing to the left. Since this fault appears on a ridge line that does not cross or touch the center line, it receives the number of the ridge line immediately above it.

c. 3FLR—fork left right, indicates a fork on the third ridge line in the right column opening to the right. Note that double line faults such as forks and islands are given the number of the first of its ridges that cross or touch the center line.

NOTE: Ridge line four contains no faults and is not reported.

d. 5FRL—fork right left, indicates a fork on the fifth ridge line in the right column opening to the left.

ABBREVIATIONS
USED FOR FAULT
DESCRIPTIONS

- F - FORK
- I - ISLAND
- B - BREAK
- E - END
- S - SEGMENT
- R - RIGHT
- C - CENTER
- L - LEFT

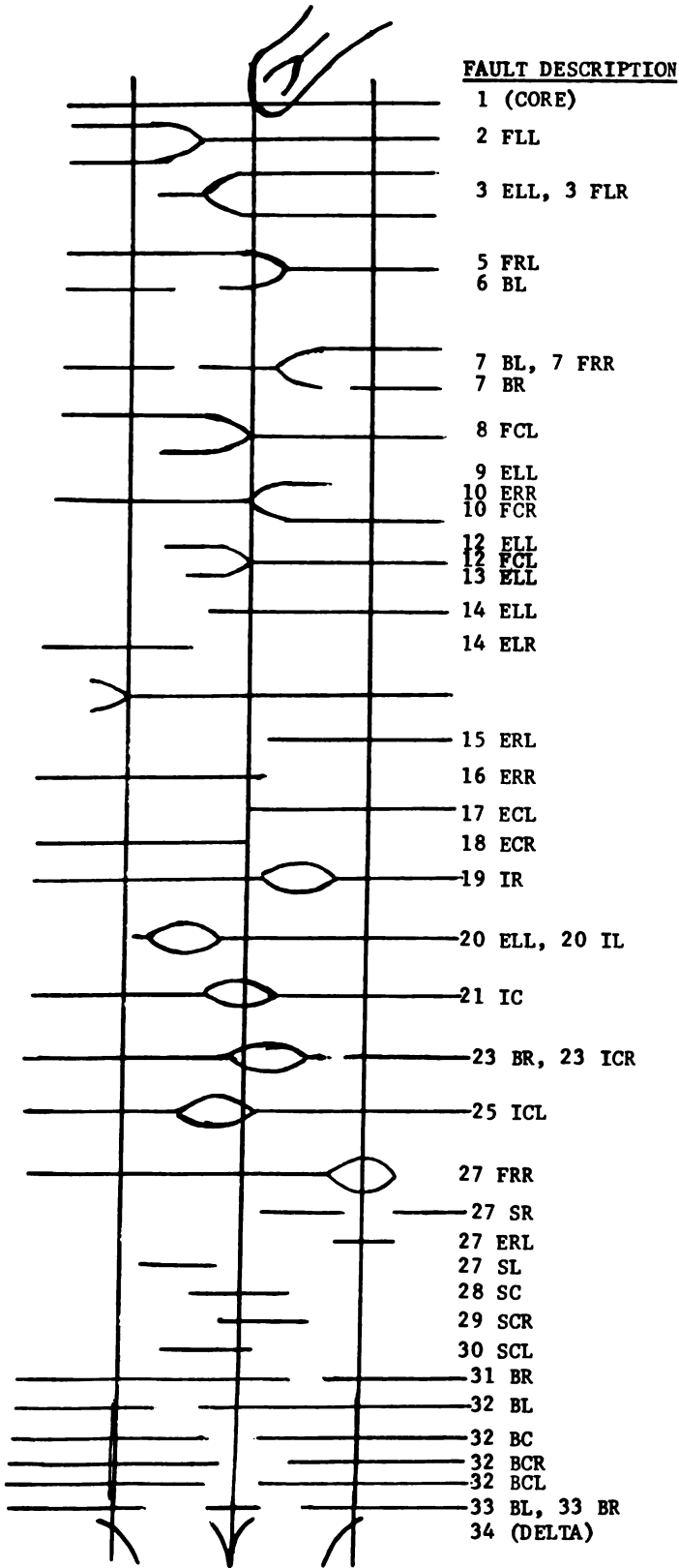


Figure 57

Figure 6. Sample fault count.

e. 6BL—break left, indicates a break on the sixth ridge line in the left column. A break does not have direction unless it is located on the center line. Although this ridge is part of the fork on ridge line five, it also touches the center line and, therefore, is reported separately.

f. 7BL—break left, indicates a break on the seventh ridge line entirely in the left column.

g. 7FRR—fork right right, indicates a fork in the right column opening to the right.

h. 7BR—break right right, indicates a break in the right column. It receives a count of 7 because the ridge line it appears on does not cross or touch the center line and it, therefore, receives the number of the line above.

i. 8FCL—fork center left, indicates a fork originating directly on the center line opening to the left. Like all double line faults, it receives the number of the first line that crosses or touches the center line.

j. 9ELL—end left left, indicates an end in the left column pointing to the left. This fault appears on the lower line of the fork and so the count is advanced by one.

k. 10ERR—end right right, indicates an end in the right column pointing to the right. It appears on the upper line of the fork.

l. 10FCR—fork center right, indicates a fork originating directly on the center line opening to the right. This fault is similar to 8FCL but opens in the opposite direction.

NOTE: Ridge line 11 is the bottom line of the fork and has no faults so it is not included in the fault count.

m. 12ELL—end left left, indicates an end on the upper line of the fork in the left column pointing to the left.

n. 12FCL—fork center left, indicates a fork originating on the center line opening to the left. It is the same as fault 8FCL (paragraph 9i).

o. 13ELL—end left left, indicates an end in the left column pointing to the left. It is the same as 12ELL (paragraph 9m) except it is on the bottom line of the fork.

p. 14ELL—end left left, indicates an end in the left column pointing to the left.

q. 14ELR—end left right, indicates an end in the left column pointing to the right. The ridge line does not cross or touch the center line and, therefore, it receives the number of the line above. NOTE: The fork appearing on ridge line 15 is outside the limits of the template and is, therefore, not included in the fault count.

r. 15ERL—end right left, indicates an end in the right column pointing to the left. The ridge line does not cross or touch the center line and, therefore, receives the number of the line above.

s. 16ERR—end right right, indicates an end in the right column pointing to the right.

t. 17ECL—end center left, indicates an end directly on the center line pointing to the left.

u. 18ECR—end center right, indicates an end directly on the center line pointing to the right.

v. 191R— island right, indicates an island completely within the limits of the right column. Notice that no direction is reported for this fault since it does not touch the center line.

w. 20ELL—end left left, indicates an end in the left column pointing to the left. It is the continuation of the ridge that forms the island.

x. 10IL— island left, indicates an island completely within the left column. It has no direction since it does not touch the reference line.

y. 21IC— island center, indicates an island directly centered on the reference line. Like all double line faults, receives the count of the first line that crosses or touches the center line.

NOTE: Ridge line 22 is bottom line of the island and has faults so it is not included in the fault count.

z. 23BR—break right, indicates a break in the right column. The fault does not have a direction since it is not on the reference line. The line the fault appears on does not cross or touch the center line so it receives the count of the ridge line above.

NOTE: This fault could have been described as ERL and ELL, but this would have entailed additional letters and longer transmission time.

aa. 23ICR—**island center right**, indicates an island on the center line with the majority of the fault in the right column. Like all double line faults it receives the count of the first line to touch the center line.

NOTE: Ridge line 24 is the bottom line of the fault and has no faults and, therefore, is not included in the fault count.

bb. 25ICL—**island center left**, same as 23ICR except the majority of the fault is in the left column.

cc. 27SL—**segment left**, indicates a segment in the left column. Since it does not cross or touch the reference line, it has no direction, and it receives the number of the line above.

NOTE: This fault could be described as ELL and ELR, but this would have entailed additional letters and longer transmission time.

dd. 27ERL—**end right left**, indicates an end in the right column pointing to the left. Although this fault, in its entirety, is a segment, the right limit of the template cuts through it, and that part within the limit of the template is an end. It has no count of its own and, therefore, will receive the count of the last ridge line above it that crosses or touches the reference line.

ee. 27FRR—**fork right right**, indicates a fork in the right column opening to the right. Although the complete fault is an island, the right limit of the template cuts thorough it causing that part within the limits of the template to become a fork.

ff. 27SR—**segment right**, indicates a segment in the right column. Since it is not on the center line, it has no direction and receives the count of the ridge line above it that touches the reference line.

gg. 28SC—**segment center**, indicates a segment directly on the center line. It has no direction since it does not have a majority in either column of the template.

hh. 29SCR—**segment center right**, indicates a segment on the center line but with the majority of the fault in the right column.

ii. 30SCL—segment center left, indicates a segment on the center line but with the majority of the fault in the left column.

jj. 31BR—break right, indicates a break entirely in the right column. It does not have any direction since it does not touch the center line.

kk. 32BL—break left, indicates a break entirely in the left column. It does not have any direction since it does not touch the center line.

ll. 32BCL—break center left, indicates a break straddling the center line with the majority of the fault in the left column.

mm. 32BCR—break center right, indicates a break straddling the center line with the majority of the fault in the right column.

nn. 32BC—break center, indicates a break that exactly straddles the center line.

NOTE: Since none of these breaks are on ridge lines that cross or touch the center line, they all receive the count of the ridge line above them that does touch the reference line.

oo. 33BL—break left, indicates a break entirely in the left column.

pp. 33BR—break right, indicates a break entirely in the right column.

NOTE: Neither of these faults have a direction due to the fact that they are not on the reference line. These two faults could be described in other ways, but this method uses the fewest letters and would result in the shortest transmission time.

NOTE: Reporting sequence for all faults is in keeping with procedures outlines in paragraph 7.

10. There will be rare cases when a fault count is required on an individual whose 10 fingers do not contain two readable loops or whorls. In such cases, it will be necessary to use arches for the fault count. Since an arch does not have a core, the Lockpoint Method is used to provide a means of orienting the template. The following is a step-by-step procedure for employing the Lockpoint Method for fault count on arches.

a. Place the template over the print so that the center line runs approximately through the center of the impression, from the tip to the line of cleavage.

b. Scan the print and select an easily identifiable fault near the bottom of the print above the line of cleavage and as close to the center line as possible.

c. Scan the print again and select an easily identifiable fault near the top of the impression and as near the center line as possible.

d. Readjust the template so that the center line passes through or touches the selected faults. This locks the template into position so that faults can be described. In the Lockpoint Method, the center line of the template touches ends, crosses the bifurcation of forks, and passes through the center of segments, breaks, and islands.

e. Identify the bottom lockpoint by counting the ridges that cross or touch the center line starting at the line of cleavage and proceeding upward through the impression. Give the fault that ridge number and identify it both as it appears within the template and as a lockpoint. For example, in figure 7, 5ECLLP is an end center left on the fifth ridge line up from the line of cleavage and is the lockpoint.

f. Continue a normal fault count, counting upwards to the top lockpoint, which is the last fault described. The rules of fault count as in the count of loops and whorls apply with the exception that the count is upwards in the Lockpoint Method.

g. Identify the top lockpoint in the same manner as the bottom lockpoint. In figure 7, 33ICLP is an island center on the 33 ridge up from the line of cleavage and is the lockpoint.

NOTE: Notice that all double line faults receive the count of their lower ridge. This is in keeping with the rule that all double line faults receive the count of the first line that touches the reference line. The faults which appear on ridge lines that do not cross or touch the center line still receive the count of the line above. In the Lockpoint Method, this will always be the larger number, while in the fault count of loops and whorls, this will be the lower number.

REFERENCE:

1-194, Fingerprint Identification Systems, Mar 78 (chap 5)

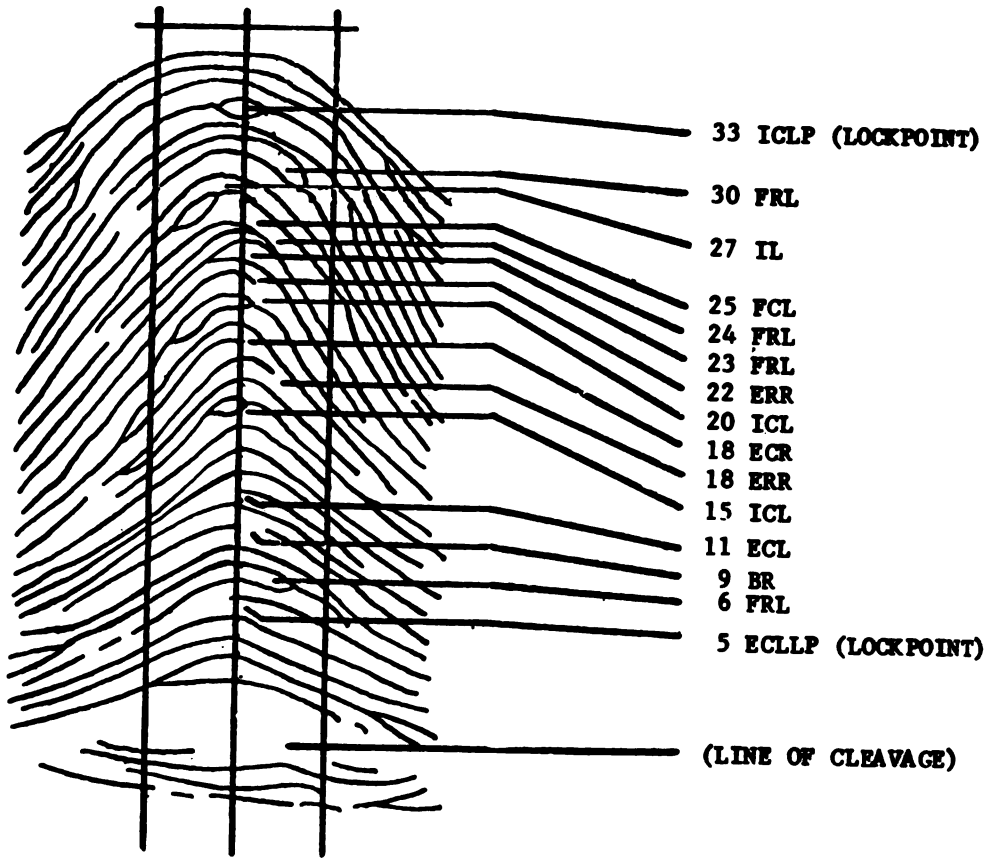


Figure 7. Lockpoint Method of fault count.

ABBREVIATIONS USED ABOVE

F - FORK	B - BREAK
I - ISLAND	C - CENTE
E - END	L - LEFT
R - RIGHT	
LP - LOCKPOINT FOR TEMPLA	

331-915-0349

PREPARE AN ASSEMBLY PLAN

CONDITIONS:

You will be given a map of the area to be infiltrated, an infiltration plan, a protractor, a pencil, and paper.

STANDARDS:

Include primary assembly area, alternate assembly point, recognition signals, and instructions for disposal of parachute equipment.

PERFORMANCE MEASURES:

1. The primary assembly point should be referenced to an easily recognized terrain feature, located 200 to 300 yards from the DZ and should provide sufficient concealment to allow individuals to remain undetected until they can be recovered.
2. An alternate assembly point must satisfy the same criteria as the primary regarding recognition and concealment, but it should be located 3 to 5 miles from the DZ.
3. Electronic equipment used by the detachment in assembly and recognition procedures should be checked carefully prior to departure.
4. In addition, each detachment member is carefully instructed concerning disposal of individual parachute equipment and techniques of erasing signs of the drop.

REFERENCE:

FM 31-201, Special Forces Operations, Nov 78 (chap 4 (4.4.h))

331-915-0350

PREPARE A MISSION BRIEFBACK

CTIONS:

You will be given an assigned mission, an area of operation, and all intelligence.

ARDS:

Prepare the operations and intelligence portion of mission briefback.

MANANCE MEASURES:

1. Prepare intelligence portion of briefback which will include but will not be limited to:

a. Enemy forces.

(1) Location.

(2) Disposition.

(3) Strength.

(4) Armament.

b. Description of enemy security and counter guerrilla organizations.

c. Information of intelligence and other auxiliary nets already established in the area.

d. Target analysis.

e. Other essential elements as may be directed by mission briefing.

2. Prepare operations portion of briefback.

a. Infiltration plan.

(1) Time of departure for airfield, portion of embarkation, or other areas.

(2) Load time.

(3) Station time.

(4) Takeoff time.

(5) Drop time.

(6) Ground contact plan and alternate.

(7) Assembly plan and alternate.

(8) Rally points.

b. Abort plan.

(1) In-flight.

(2) En route (land infiltration).

(3) At sea (water infiltration).

c. Drop zone/landing zone/beach landing site sterilization procedures.

d. Estimate of present guerrilla situation.

(1) Composition.

(2) Level of training.

(3) Availability of interpreters.

(4) Strengths and weaknesses.

e. Plans for training based on programs of instruction.

f. Tentative plans for training, organization, and operations.

REFERENCES:

ST 31-187. SOP for SFOD's in Unconventional Warfare, May 75 (annex B, app 4)

ST 31-201, Special Forces Operations, Nov 78 (annex A, sec III)

331-915-0351

 WRITE AN INTELLIGENCE ESTIMATE

TIONS:

You will be given enemy situation map, order of battle files, an analysis of the area of operations, FM 30-5, and writing materials.

ARDS:

Intelligence estimates are prepared in accordance with section V, chapter 6, and appendix J, FM 30-5.

RMANCE MEASURES:

1. Extract mission statement from operations order and summarize it in paragraph 1 of intelligence estimate.
2. Review the analysis of the area of operations, weather reports, terrain studies, and demographic studies.
3. Summarize in paragraph 2a the existing weather situation, including a brief interpretation of its effects on both enemy and friendly courses of action.
4. Summarize in paragraph 2b the existing terrain situation, describing it in terms of the tactical aspects of the area; include a brief discussion of the influence of each aspect in selecting broad courses of action by either force.
5. Review all available demographic data, extracting pertinent items relating to sociology, politics, economics, psychology, etc., and summarize it in paragraph 2.
6. Review enemy situation map and all order of battle data, extracting information relative to enemy dispositions, compositions, and strengths.
7. Describe in paragraph 3a the enemy dispositions using one of the following methods:
 - a. Prepare an enemy disposition overlay to be attached to the intelligence estimate.

- b. Refer to a previously published overlay or document.
 - c. List enemy unit locations by UTM coordinates.
8. List in paragraph 3b the identification of units the enemy may use to prevent mission accomplishment.
9. List in paragraph 3c, in the following order, those enemy forces immediately opposing friendly forces:
- a. Enemy ground units in contact (committed forces) and fire support units.
 - b. Other enemy forces which can reasonably be considered capable of closing with the friendly forces in time to effect mission accomplishment.
 - c. A brief summary of available air support.
 - d. A brief summary of enemy NBC operations capability.
10. Review enemy situation map, journal, message file, intelligence workbook, etc., extracting recent and current enemy activities which serve as indicators to future enemy actions. Summarize these activities and list them in paragraph 3d of the intelligence estimate.
11. Summarize in paragraph 3e enemy peculiarities and weaknesses.
12. In paragraph 4a, enumerate each possible course of action the enemy can adopt.
13. In paragraph 4b, analyze and discuss each capability listed in previous subparagraphs.
14. Review data collected relating to the area of operations; then determine avenues of approach.
15. Review enemy capabilities and discussions/analyses of each; then select the most probable course(s) of action.
16. Review data concerning peculiarities and weaknesses; then determine which are considered to be vulnerabilities.
17. Present estimate to the commander for approval/comment.

REFERENCE:

FM 30-5, Combat Intelligence, Oct 73 (sec IV, chap 6, app J)

331-915-0352

PREPARE A RECONNAISSANCE AND SURVEILLANCE PLAN

CONDITIONS:

You will be given the area of interest, maps of the area, an example surveillance, and a target acquisition plan format.

STANDARDS:

1. The plan will be based on a five-paragraph operations order format.
2. The plan includes:
 - a. An estimate of requirements.
 - b. A ground surveillance section.
 - c. An aerial surveillance section.
 - d. A target acquisition section.

PERFORMANCE MEASURES:

1. An estimate of surveillance and target acquisition requirements should consider the following.
 - a. The percentage of the perimeter or area of operations that must come under surveillance and the ranges at which the requirements are established.
 - b. Surveillance and target acquisition resources available to the unit.
 - c. Whether a specially equipped force should be organized.
 - d. The extent to which surveillance and target acquisition are affected by the type of defense and/or offense adopted.

e. The provision of reconnaissance elements for task forces and the provision for shifting the emphasis of resources as required.

f. Probable enemy movement and suspected enemy assembly or base areas which require a high degree of surveillance.

g. The requirement for surveillance in depth and to the flanks.

h. The effect of reduced visibility caused by darkness, smoke, or poor weather conditions.

2. The ground surveillance section (see task #301-243-4105) should cover the employment of patrols, defoliation, observation posts, listening posts, remote sensors, night vision devices, and ground surveillance radar. This section of the plan has no prescribed format.

3. The aerial surveillance section should cover the employment of aviation assets and defoliation. In addition, visual observation, aerial photography, airborne radar, infrared, image intensification, relays, and other devices should be included. This section of the plan has no prescribed format.

4. The target acquisition section should specify zones of responsibility and means to be employed in acquiring targets. It should also include target criteria to be followed when targets are acquired. This section of the plan has no prescribed format.

5. Any time ground surveillance radars (GSRs) are used, enemy electronic countermeasures must be prime consideration.

6. As an active emitter, the radar can be easily and accurately located by direction finding in a very short period of time.

7. Every attempt must be made to make sidelobe detection as difficult as possible. Try to shield radar with existing terrain.

8. Under no circumstances should a radar be used in an open area.

9. Use hard backgrounds, rocks, mountains, etc., to scatter main beam. Use soft backgrounds, dense vegetation, etc., to absorb main beam IAW TC 30-23, pages 9-12.

REFERENCE:

30-5, Combat Intelligence, Oct 73 (chap 3)

331-915-0353

PREPARE A TARGET ANALYSIS

DITIONS:

You will be given directions, latest intelligence reports, incoming information on the area, situation map, and target criteria.

DARDS:

Targets will be selected, and the selection factors will be listed to include: criticality, accessibility, recuperability, vulnerability, and effect on the local population.

ORMANCE MEASURES:

1. Targets are not attacked indiscriminately; they are part of an overall plan to destroy an entire system. Interdiction is based on the assigned mission which directs, as a minimum, the results desired and the priorities of attack for specific systems. Based on this mission, the area commander selects the specific targets and those elements to conduct the attack.

2. Target selection requires detailed intelligence, thorough planning, and is based on these factors.

a. Criticality. A target is critical when its destruction or damage will have a significant influence upon the enemy's ability to conduct or support operations. Each target is considered in relation to other elements of the particular target system designated for interdiction. The criticality of a target changes with the situation. For example, when the enemy has few locomotives, a railroad bridge is less critical; however, its safeguarding may be critical when friendly conventional force plans require its use.

b. Accessibility. A target is accessible when a resistance element can infiltrate the target area either physically or by direct or indirect weapons fire (if and when that particular target can be destroyed/damaged by indirect fire methods).

c. Recuperability. A target's recuperability is measured in time; i.e., how long will it take the enemy to replace, repair, or bypass the damage/destruction of that particular target.

d. Vulnerability. A target is vulnerable if the detachment has the means (i.e., explosives, weapons, manpower) and expertise to destroy that target.

e. Effect (on local population). Enemy reaction to interdiction operations may result in reprisals against the civilian population. The possible political, economic, and sociological impact of operations on friendly civilians must always be considered. Guerrilla forces seek to destroy the core of enemy power, while at the same time conserving the energy, unity, and fighting spirit of the friendly civilian population.

REFERENCE:

ST 31-201, Special Forces Operations, Nov 78 (chap 7-7)

Section II

Light Weapons Leader

331-915-0050

IDENTIFY AND DESCRIBE SELECTED HANDGUNS

CONDITIONS:

You will be given a 15-second view of each selected handgun or a 15-second view of a photograph, illustration, or model of each selected handgun.

STANDARDS:

1. Correctly Identify Each Handgun.
2. Describe Each Handgun (2 minutes per gun).
 - a. Country of origin.
 - b. Military designation.
 - c. Cartridge type.
 - d. Type of feed.
 - e. Locking system.
 - f. System of operation.
 - g. Maximum effective range.

PERFORMANCE MEASURES:

1. Identify the P35. (See fig. 1.)
 - a. Country of origin: Belgium.
 - b. Military designation: P35 pistol.
 - c. Cartridge type: 9mm Parabellum.
 - d. Type of feed: 13-round box magazine.
 - e. Locking system: Rising barrel.
 - f. System of operation: Recoil, semiautomatic.

- g. Maximum effective range: 50 meters.

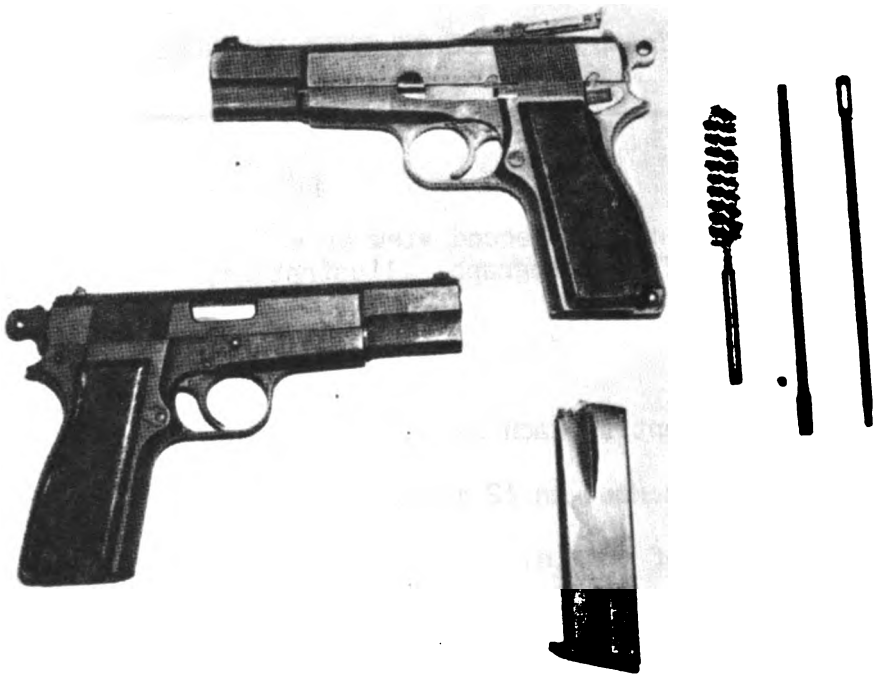


Figure 1

- 2. Identify the M1911A1. (See fig. 2.)
 - a. Country of origin: USA.
 - b. Military designation: M1911A1 pistol.
 - c. Cartridge type: Caliber .45 Automatic Colt Pistol.
 - d. Type of feed: 7-round box magazine.
 - e. Locking system: Rising barrel.
 - f. System of operation: Recoil, semiautomatic.
 - g. Maximum effective range: 50 meters.



Figure 2

3. Identify the TT33. (See fig. 3.)
 - a. Country of origin: USSR.
 - b. Military designation: TT33 pistol.
 - c. Cartridge type: 7.62 x 25mm type "P" Soviet.
 - d. Type of feed: 8-round box magazine.
 - e. Locking system: Rising barrel.
 - f. System of operation: Recoil, semiautomatic.
 - g. Maximum effective range: 50 meters.



Figure 3

4. Identify the Makarov.
 - a. Country of origin: USSR.
 - b. Military designation: PM (Pistolet Makarov).
 - c. Cartridge type: 9 x 18mm pistol cartridge.
 - d. Type of feed: 8-round magazine.
 - e. System of operation: Blowback.
 - f. Maximum effective range: 50 meters.
5. Identify the P38. (See fig. 4.)
 - a. Country of origin: Germany.
 - b. Military designation: P38 pistol.
 - c. Cartridge type: 9mm Parabellum.
 - d. Type of feed: 8-round box magazine.

- e. Locking system: Rising cam block.
- f. System of operation: Recoil, semiautomatic.
- g. Maximum effective range: 50 meters.

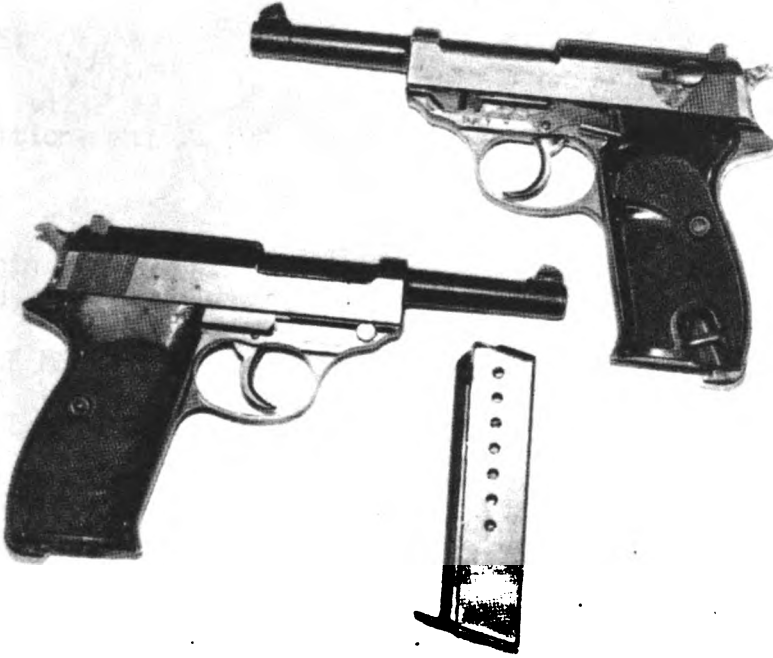


Figure 4

- 6. Identify the M10. (See fig. 5.)
 - a. Country of origin: USA.
 - b. Military designation: Model 10 Smith and Wesson revolver.
 - c. Cartridge type: .38 special.
 - d. Type of feed: 6-round cylinder.
 - e. System of operation: Revolving cylinder, double action.
 - f. Maximum effective range: 50 meters.



Figure 5

REFERENCE:

None

331-915-0051

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
AN AMERICAN CALIBER .38 REVOLVER

CONDITIONS:

You will be given a .38, five rounds of caliber .38 ammunition, and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Load and Fire Weapon. (See fig. 1.)
 - a. Load within 10 seconds.
 - (1) Hold revolver with left hand.
 - (2) Point muzzle down and thumb latch to the left.
 - (3) Press thumb latch with right thumb.
 - (4) Push cylinder out with the fingers of the left hand.
 - (5) With right hand, insert cartridge into each chamber of the cylinder.
 - (6) Close cylinder with left thumb.



Figure 1

b. Fire within 5 seconds.

(1) Single action:

(a) Pull hammer back with thumb as far as it will go to cock revolver.

(b) Aim and fire.

(2) Double action:

(a) Apply increasing pressure to trigger until the hammer cocks and falls forward, striking the cartridge primer.

(b) Release trigger after each shot.

(c) Pull trigger for each succeeding shot.

2. Take Immediate Action To Reduce a Stoppage.

a. Apply immediate action within 5 seconds.

(1) If revolver fails to fire and hammer is forward,

- (a) Point weapon at target.
- (b) Recock weapon with thumb.
- (c) Aim and attempt to fire.

(2) If revolver fails to fire and hammer is cocked or partly cocked,

- (a) Point weapon at target.
- (b) Attempt to recock weapon with thumb.
- (c) If weapon cocks, aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, inspect:

- (1) Firing pin. (If broken, turn into maintenance.)
- (2) Primer. (If defective, replace cartridge.)
- (3) Hammer. (If dirt or an obstruction is under hammer, clean the area.)
- (4) If weapon fails to load, inspect chamber. (If dirt or an obstruction is in chamber, clean chamber.)

c. If steps "a" and "b" above fail to reduce the stoppage, send weapon to maintenance for inspection and repair.

3. Unload and Clear Weapon Within 10 Seconds. (See fig. 2.)

a. Release cylinder.

- (1) Hold muzzle in left hand.
- (2) Point muzzle down and thumb latch to the left.
- (3) Press thumb latch with right thumb.
- (4) Push cylinder out with fingers of left hand.

b. Eject cartridge and cartridge case.

- (1) Raise left arm above shoulder level.
- (2) Bring arm down rapidly while pressing ejector or rodhead with left thumb.

c. Inspect cylinder to insure each chamber is clear.



Figure 2

REFERENCE:

FM 23-35, Pistols and Revolvers (chap 8 pages 76-81)

331-915-0052

MAINTAIN AN AMERICAN CALIBER .38 REVOLVER AND AMMUNITION

CONDITIONS:

You will be given a .38; five rounds of caliber .38 ammunition; a screwdriver, cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, lubricant, solvent, all purpose (LSA) or lubricant, all weather (LAW), rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts.



Figure 1

2. Disassemble Weapon. (Remove stocks only.)

NOTE: The working mechanism of the revolver is delicate and easily damaged. When revolver parts become broken or worn, the weapon must be turned in for repair.
--

3. Clean Weapon.

a. Remove all primer salts, powder ashes, and carbon in the bore.

- (1) Open cylinder.
- (2) Hold revolver with muzzle pointed up.
- (3) Hold cylinder in open position.
- (4) Saturate a swab with rifle bore cleaner or soapy water.
- (5) Insert swab in a cleaning rod.
- (6) Move rod forward and back through the bore several times.
- (7) Run cleaning rod, with brush attached, back and forth through the bore one or two times.
- (8) Again run several swabs saturated with cleaner or water through the bore.
- (9) Run dry swabs through the bore until it is clean and dry.

b. Remove all primer salts, powder ashes, and carbon in the chambers.

- (1) Hold revolver with muzzle forward, cylinder beneath the frame.
- (2) Repeat operation in step "a" above for each of the cylinder chambers.

c. Inspect bore and chambers for residue and corrosion.

- (1) Saturate a swab with oil, lubricant, or preservative.
- (2) Swab bore and chambers.

(3) Swab all exposed metal parts with a light coat of oil.

NOTE: Due to corrosion, the following parts require special care after firing:

1. The frame above the cylinder in rear of barrel.
2. The hammer nose.
3. The firing pin channel and hammer groove in the frame.

4. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

5. Reassemble Weapon. (Replace stocks.)

6. Perform Function Check.

a. Cock hammer (cylinder should advance).

b. Press trigger (hammer should go forward).

c. Release trigger and press again (cylinder should advance and hammer should cock and fire).

REFERENCES:

FM 23-35, Pistols and Revolvers (chap 9, page 81; chap 10, page 82)
FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0053

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A SOVIET MAKAROV PISTOL (PM)

CONDITIONS:

You will be given a Makarov (PM) and a magazine containing six rounds of 9 x 18mm ammunition and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Load and Fire Weapon.

a. Load:

- (1) Hold slide by its milled grooves.
- (2) Pull slide back against spring tension.
- (3) Push slide stop up to lock slide.
- (4) Insert magazine into pistol until magazine catch is engaged.
- (5) Pull slide stop down; slide will move forward, chambering a round.
- (6) Rotate safety up to "SAFE" position; red dot on slide will be covered. Hammer will fall automatically, but the safety blocks the firing pin.

CAUTION: PISTOL IS NOW READY TO FIRE!

b. Fire:

- (1) Rotate safety forward to "FIRE" position.
- (2) Pull hammer back, using thumb.
- (3) Aim and fire; slide will remain back after last

round is fired.

2. Take Immediate Action Within 5 Seconds To Reduce a Stoppage. (Follow procedures and use materials prescribed for the Belgian High Power, task number 331-915-0060.)

3. Unload and Clear Weapon.

a. Unload:

- (1) Press magazine catch away from magazine.
- (2) Remove magazine.

b. Clear:

- (1) Put safety on "FIRE" position.
- (2) Pull slide to rear.
- (3) Visually inspect chamber.
- (4) Release slide.
- (5) Put safety on "SAFE."

REFERENCE:

None

331-915-0054

MAINTAIN A SOVIET MAKAROV PISTOL (PM), MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given a Makarov (PM); a magazine, five rounds of 9 x 18mm ammunition; a cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts.
2. Disassemble Weapon Within 30 Seconds.
 - a. Clear weapon within 10 seconds, leaving magazine out and safety off.
 - b. Remove receiver:
 - (1) Pull front of trigger guard down.
 - (2) When trigger guard will clear receiver, press trigger guard to one side.
 - (3) Rest trigger guard against receiver.
 - c. Remove slide and driving spring:
 - (1) Hold slide by its milled grooves.
 - (2) Pull slide back.
 - (3) Lift rear end of slide up out of receiver.
 - (4) Ease slide forward over barrel.
 - (5) Pull driving spring off barrel.

3. Clean Weapon. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

4. Reassemble Weapon Within 30 Seconds.

a. Insure hammer is cocked, safety is in the "FIRE" position, and trigger guard is down.

b. Reassemble and replace slide and driving spring:

(1) Slide driving spring, small end first, over the barrel.

(2) Insert recoil spring end into the circular front section of the slide.

(3) Slip barrel through the hole in the slide.

(4) Pull slide back.

(5) Press slide down into position on receiver.

(6) Driving spring will drive slide forward.

c. Disengage trigger guard from receiver and return it to normal position.

5. Maintain Magazine. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 20 Seconds.

a. Rotate safety upward to "SAFE" position (hammer will fall automatically but safety blocks firing pin).

b. Press trigger (hammer should raise but not fall).

c. Rotate safety downward ("FIRE").

d. Press trigger (hammer should raise and fall).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0055

PERFORM A DETAILED DISASSEMBLY AND REASSEMBLY OF
AN AMERICAN CALIBER .45 PISTOL

CONDITIONS:

You will be given a .45 pistol and a screwdriver.

STANDARDS:

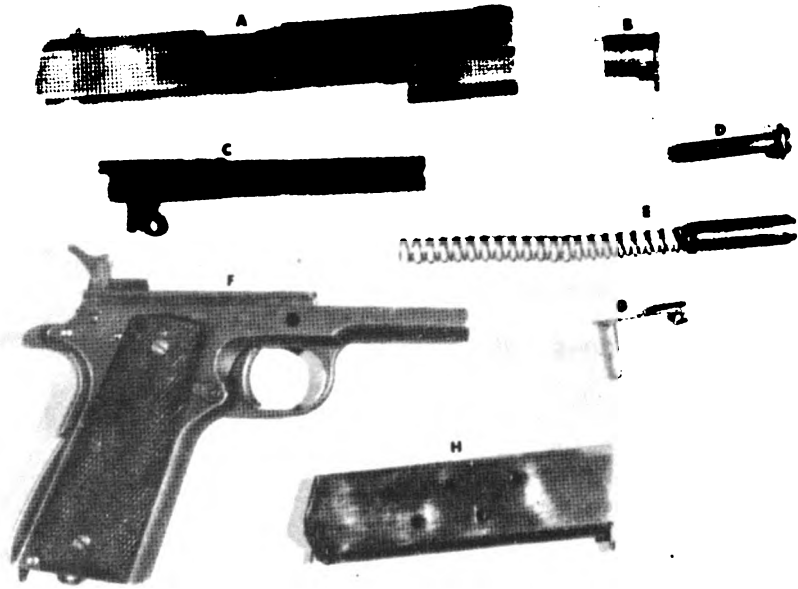
Within 30 minutes, disassemble and assemble the weapon.

PERFORMANCE MEASURES:

1. Field Strip Weapon. (Follow procedures and use materials prescribed in task number 191-376-0105, FM 7-11B1/2.)
2. Identify Weapon Parts. (See figs. 1 and 2.)



Figure 1



PISTOL M1911A1 USA

- A. Slide Group
- B. Barrel Bushing
- C. Barrel
- D. Recoil Spring Guide

- E. Recoil Spring & Plug
- F. Receiver Group
- G. Slide Stop
- H. Magazine

Figure 2

3. Perform Detailed Disassembly Within 4 Minutes. (See fig. 2.)

a. Disassemble slide group:

- (1) Place slide on a flat surface, muzzle down.
- (2) Using the pin of the slide stop, push down on the firing pin (relieves spring pressure).
- (3) Slowly remove the firing pin stop.
- (4) Lift out the firing pin and firing pin spring.
- (5) Using tip of firing pin, pry extractor from slide.

b. Receiver group:

(1) Safety lock:

- (a) Cock hammer.
- (b) Push safety up to the halfway position and

hold it.

(c) Push safety lock pin from opposite side and remove safety lock (may need a pointed object to assist).

(2) Remove mainspring housing pin:

(a) Pull trigger and ease hammer forward.

(b) Using safety lock as a tool, push hard on mainspring housing pin to remove.

(3) Remove grip safety and mainspring housing and mainspring:

(a) Slide mainspring housing halfway off.

(b) Remove grip safety.

(c) Slide mainspring housing off receiver.

(4) Reach in and remove sear spring.

(5) Remove hammer, hammer strut, hammer pin, and sear pin:

(a) Turn weapon on its left side.

(b) Tap top rear of receiver and hammer and sear pin will fall out.

(c) Lift out hammer and strut.

(6) Remove sear and disconnecter:

(a) Tilt weapon so that front of receiver points up.

(b) Catch sear and disconnecter as they fall out of receiver.

(7) Remove magazine catch and trigger:

(a) Place recoil spring plug on a flat surface, hollow portion down.

(b) Turn receiver on left side and place magazine release button on top of recoil spring plug.

(c) Apply downward pressure until magazine

release button is depressed enough to expose the setscrew on the opposite side of magazine release button.

(d) Using short end of sear spring as a tool, turn setscrew counterclockwise until magazine lock and spring disengage.

(e) Remove magazine lock and spring.

(f) Slide trigger out of receiver.

(8) Pull out safety lock plunger, slide stop plunger, and spring from left side of receiver.

(9) Remove both stocks by unscrewing stock screws.

4. Perform Detailed Reassembly Within 6 Minutes. (See fig. 2.)

a. Reassemble receiver group:

(1) Replace both stocks by inserting stock screws and tightening.

(2) Insert safety lock plunger, slide stop plunger, and spring into housing on the left side of receiver, long end pointing rearward.

(3) Replace magazine catch and trigger:

(a) Slide trigger all the way into receiver.

(b) Replace magazine release button from right side.

(c) Replace magazine lock and spring.

(d) Place the recoil spring plug on a flat surface, bottom portion down.

(e) Place the receiver and magazine release button on top of recoil spring plug and hold it flush.

(f) Using short end of sear spring as a tool, turn setscrew clockwise until magazine lock and spring engage.

(4) Replace sear, disconnector, and sear pin:

(a) Connect sear and disconnector (pinholes should align when the two are connected).

(b) Turn receiver so that the front end points down.

(c) Insert sear and disconnector in top rear of receiver.

(d) Align the holes in the sear and disconnector with the hole in the receiver.

(e) Replace the sear pin (small pin) from the left side.

(5) Replace hammer, hammer strut, and pin:

(a) Turn weapon on right side.

(b) Insert hammer into receiver and align the hole in the hammer with the holes in receiver; replace hammer pin (large pin).

(6) Replace sear spring:

(a) Engage the bottom of the spring with its notch in the rear of receiver.

(b) Insure that the small end rests under the sear.

(7) Replace mainspring housing and grip safety:

(a) Turn receiver so front end is pointed down.

(b) Raise the hammer strut.

(c) Slide the mainspring housing halfway up into receiver. (This will lock the sear spring in place.)

(d) Rotate hammer strut down into place.

(e) Replace grip safety.

(f) Tilt receiver back to insure hammer strut aligns with the well in the mainspring housing.

(g) Push mainspring housing all the way in.

(8) Replace mainspring housing pin:

(a) Cock hammer (relieve tension on mainspring housing).

(b) Align hole in mainspring housing with holes in receiver.

(c) Replace mainspring housing pin from left to right.

NOTE: It may be necessary to tap the weapon to seat the pin.

(9) Replace safety lock:

(a) Keep hammer cocked.

(b) Align the hole of the grip with the holes in receiver.

(c) Insert safety lock and pin.

(d) Use a screwdriver to move plunger so safety lock will seat.

b. Reassemble slide group:

(1) Place slide on flat surface, muzzle down.

(2) Insert extractor into rear of slide and align the notch on extractor with the groove for firing pin stop.

(3) Insert firing pin spring and firing pin into their recess.

(4) Using the slide stop pin as a tool, carefully push in on firing pin and hold. (This compresses firing pin spring.)

(5) Align the firing pin stop with its grooves in the rear of slide (rounded portion up) and slide firing pin stop forward into place. At the same time, slowly remove the slide stop pin.

5. Reassemble Weapon. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

REFERENCES:

FM 23-35, Pistols and Revolvers
FM 7-11B1/2, Soldiers Manual, 11B, Infantryman

331-915-0056

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A GERMAN P38 PISTOL

CONDITIONS:

You will be given a P38 and a magazine containing five rounds of 9mm Parabellum ammunition and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Load and Fire Weapon.



Figure 1

a. Load within 10 seconds:

- (1) Hold pistol in raised pistol position.
- (2) Draw slide to rear and lock open with slide stop.
- (3) Insert loaded magazine until it locks.
- (4) Push down on slide stop (slide will move forward and chamber a round).

b. Fire within 5 seconds:

(1) Check safety position:

(a) With safety on "FIRE," hammer remains locked back (weapon is ready to fire).

(b) With safety on "SAFE," hammer will follow slide forward to rest against blocked firing pin. Weapon will be ready to fire only when—

- 1 Hammer is thumb-cocked or,
- 2 Trigger is pulled to draw back and release hammer.

(2) Aim and fire.

2. Take Immediate Action To Reduce a Stoppage.

a. Apply immediate action within 5 seconds:

- (1) Recock weapon.
- (2) Attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows:

- (1) If slide is forward and the hammer falls,
 - (a) Pause 10 seconds.
 - (b) Eject round and chamber new round.
 - (c) Attempt to fire again.

(2) If the slide is not forward, remove finger from the trigger guard and, with the nonfiring hand, attempt to push

the slide forward.

(a) If slide goes forward, attempt to fire.

(b) If slide will not move forward, proceed as follows:

1 Remove magazine.

2 Pull slide to the rear.

3 Inspect chamber.

4 Insert magazine, release slide.

5 Attempt to fire again.

3. Unload and Clear Weapon Within 10 Seconds.

a. Unload:

(1) Hold pistol in raised position.

(2) Remove magazine.

b. Clear:

(1) Inspect chamber for rounds.

(2) Release slide.

(3) With pistol raised, pull trigger.

REFERENCE:

None

331-915-0057

MAINTAIN A GERMAN P38 PISTOL, MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given a P38; a magazine; five rounds of 9mm Parabellum ammunition; a cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 20 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

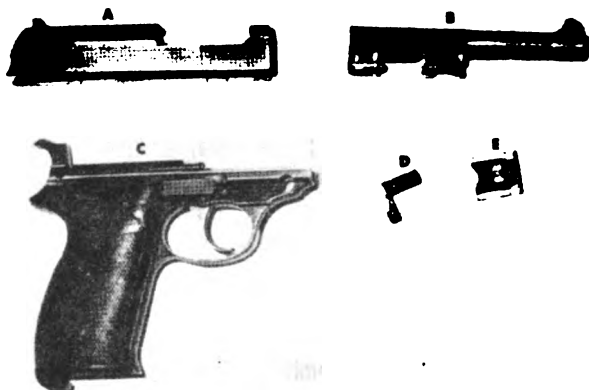
PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See fig 2.)



Figure 1

2. Disassemble Weapon Within 1 Minute.



PISTOL P38 GERMANY

- | | |
|-------------------|----------------------|
| A. Slide | D. Slide Lock Pin |
| B. Barrel | E. Locking Cam Block |
| C. Receiver Group | |

Figure 2

a. Clear weapon within 10 seconds (do not insert magazine).

b. Remove barrel and slide:

- (1) Push safety lever down to "SAFE."
- (2) Draw slide to rear, locking open with slide stop.
- (3) Rotate takedown lever down.
- (4) Pull slide slightly to rear.
- (5) Push down slide stop and allow slide to ease forward (hammer will fall).
- (6) Press trigger and hold it.
- (7) Move slide forward until both it and barrel are free of receiver.

c. Separate barrel and slide:

- (1) Turn slide and barrel upside down.
- (2) Press in on unlocking plunger.
- (3) Slide barrel ahead and out of slide.

d. Remove locking cam block by pushing it forward and up out of its recess.

e. Remove takedown pin and lever from right to left.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 3 Minutes.

- a. Replace takedown pin and lever from left to right.
- b. Replace locking cam block into recess in barrel.
- c. Connect barrel to slide:

(1) Insert barrel into inverted slide until barrel is seated against the slide face.

(2) Press the lock down.

d. Replace barrel and slide:

(1) Uncock hammer.

NOTE: Insure ejector is pushed forward into magazine well.

(2) Rotate takedown lever forward.

(3) Join the slide to receiver.

(4) Pull slide to rear and lock with slide stop.

(5) Rotate takedown lever back to its normal position.

(6) Press the slide stop and let slide go forward.

5. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

6. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 20 Seconds.

- a. Cock hammer.
- b. Push down thumb safety lever to "SAFE" position (hammer should fall).
- c. Depress trigger (hammer should not go forward).
- d. Push up thumb safety lever to "FIRE" position (trigger should move to double action position).
- e. Depress trigger (hammer should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0058

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A SOVIET TOKAREV (TT33) PISTOL

CONDITIONS:

You will be given a TT33 and a magazine containing six rounds of 7.62 x 25mm "P" ammunition and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Load And Fire Weapon Within 10 Seconds.



Figure 1

a. Load:

- (1) Hold slide by its milled grooves.
- (2) Pull slide back against spring tension. (NOTE: If hammer is half-cocked, the slide cannot be pulled back.)
- (3) Push slide stop up to lock slide.
- (4) Insert magazine into pistol until magazine catch is engaged.
- (5) Pull slide stop down; slide will move forward, chambering a round.

CAUTION: PISTOL IS NOW READY TO FIRE!

(6) Lower the hammer to the half-cocked position very carefully by holding the hammer and pressing the trigger at the same time. (NOTE: THERE IS NO OTHER SAFETY ON THIS PISTOL.)

b. Fire:

- (1) Pull hammer back.
- (2) Aim and fire; slide will remain back after last round is fired.

2. Take Immediate Action To Reduce a Stoppage.

a. Apply immediate action within 5 seconds:

- (1) Recock weapon.
- (2) Attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows:

- (1) If slide is forward,
 - (a) Wait 10 seconds.
 - (b) Eject round, chamber new round.
- (2) If slide will not move forward,
 - (a) Remove magazine.
 - (b) Pull slide to rear.

- (c) Inspect chamber.
- (d) Release slide, insert new magazine.
- (e) Attempt to fire.

3. Unload And Clear Weapon Within 10 Seconds.

a. Unload:

- (1) Hold pistol in raised pistol position.
- (2) Press magazine catch.
- (3) Remove magazine.

b. Clear:

- (1) Hold pistol in raised pistol position.
- (2) If slide is not locked to rear, pull slide to rear.
- (3) Visually inspect the chamber.
- (4) Pull slide stop down to release slide.
- (5) Pull trigger.

REFERENCE:

None

331-915-0059

MAINTAIN A SOVIET TOKAREV (TT33) PISTOL,
MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given a TT33; a magazine; five rounds of 7.62 x 25mm "P" ammunition; a cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, solvent, LSA or LAW lubricating oil, rifle patches, and clean, dry rags.

TANDARDS:

Within 20 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)



Figure 1



PISTOL TT33 SOVIET

- | | |
|-------------------|---------------------------|
| A. Slide | E. Recoil Spring |
| B. Barrel Bushing | F. Slide Stop Pin |
| C. Barrel | G. Hammer & Sear Assembly |
| D. Recoil Spring | H. Receiver Group |

Figure 2

2. Disassemble Weapon Within 2 Minutes.

a. Clear weapon but do not insert magazine.

b. Remove barrel bushing:

(1) With a pointed object, press in the recoil spring plunger to unlock the barrel bushing.

(2) Rotate barrel bushing half a turn and remove it.

CAUTION: The recoil spring must be controlled so it does not fly out of the slide.

c. Remove slide:

(1) Using base of magazine, press the slide stop retaining clip rearward to free the slide stop.

(2) Remove slide stop from the left side.

(3) Carefully draw receiver off the slide to the rear, holding one hand under the receiver to catch hammer

mechanism as it falls out.

d. Remove recoil spring plunger, spring, and guide from the barrel.

e. Remove barrel:

(1) Hold slide inverted and swing barrel link forward.

(2) Lift rear end of barrel to disengage it from slide.

(3) Slide barrel forward to remove.

NOTE: If hammer mechanism did not fall free of receiver, pull it out of receiver.

3. Clean Weapon. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

4. Maintain Magazine.

a. Wipe dirt from tube, spring, and follower.

b. Lightly lubricate spring.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Reassemble Weapon Within 4 Minutes.

a. Place hammer mechanism into receiver.

b. Replace the barrel, placing the chamber end first into inverted slide until it drops into the locked position.

c. Replace slide:

(1) Place the recoil spring plunger, spring, and guide on the barrel (rounded side of the guide up and shaft toward the muzzle just forward of the turned-down link).

(2) Holding hammer mechanism in place, slide receiver onto slide as far as it will go.

(3) Turn pistol upright and look through the small hole above the trigger to insure that the holes in the link and

receiver are aligned.

(4) Insert slide stop from the left.

(5) Press retainer forward to hold slide stop in place.

(6) Move hammer to the half-cock position to lock slide in place.

d. Replace recoil spring, plunger, and barrel bushing:

(1) Carefully force the recoil spring and plunger into slide.

(2) Insert the barrel bushing into slide and rotate bushing one-half turn. Plunger will lock bushing in place.

7. Perform Function Check Within 20 Seconds.

a. Cock the hammer halfway.

b. Press trigger (hammer should not fall).

c. Cock the hammer fully.

d. Press trigger (hammer should fall).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0060

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A BELGIAN BROWNING HIGH POWER (P35) PISTOL

CONDITIONS:

You will be given a P35; a magazine containing six rounds of 9mm Parabellum ammunition, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

In the time specified, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Load and Fire Weapon Within 10 Seconds.

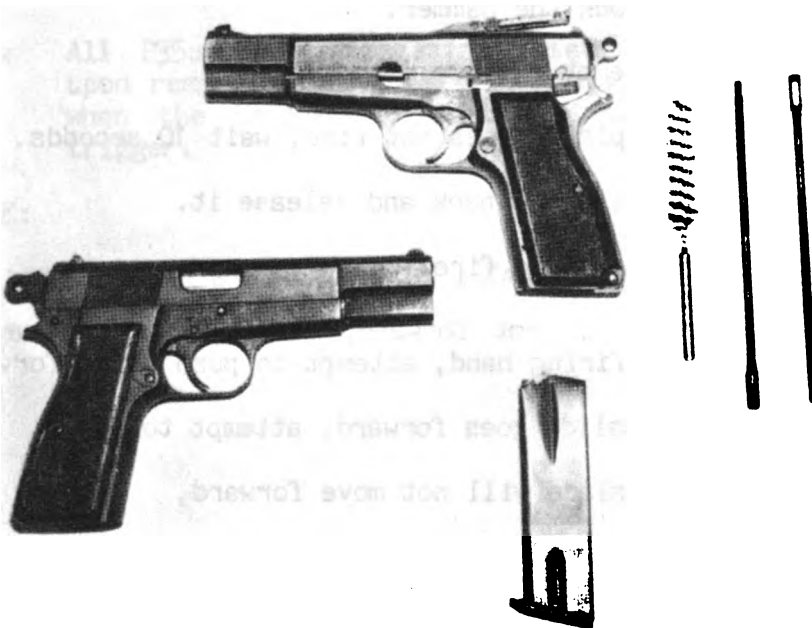


Figure 1

a. Load:

- (1) Hold pistol in the raised pistol position.
- (2) Pull slide to rear and push up on slide stop.
- (3) Insert loaded magazine into handle.
- (4) Push down on slide stop. This chambers the round.
- (5) Push thumb safety up into first notch at rear of weapon.

b. Fire:

- (1) Push thumb safety down to "FIRE" position.
- (2) Aim and fire.

2. Take Immediate Action Within 15 Seconds To Reduce a Stoppage.

a. If slide is forward, hammer falls, and pistol fails to fire,

- (1) Recock the hammer.
- (2) Attempt to fire.
- (3) If pistol does not fire, wait 10 seconds.
- (4) Pull slide back and release it.
- (5) Attempt to fire.

b. If slide is not forward, remove finger from trigger guard and with nonfiring hand, attempt to push slide forward.

- (1) If slide goes forward, attempt to fire.
- (2) If slide will not move forward,
 - (a) Remove magazine.
 - (b) Pull slide to rear.
 - (c) Inspect chamber for obstructions.

1 If chamber is clear, insert new magazine, release slide, and attempt to fire.

2 If chamber is not clear, unload, clear, and turn in weapon.

c. If immediate action fails to reduce the stoppage, unload, clear, and turn in weapon.

3. Unload and Clear Weapon.

a. Unload. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

b. Clear:

(1) Hold pistol in raised pistol position, pull slide to rear, and inspect chamber.

(2) Release slide.

(3) Insert empty magazine.

(4) Hold pistol in raised pistol position and pull trigger.

NOTE: All P35s have a magazine safety which locks the sear upon removal of the magazine. If hammer will not fall when the trigger is pulled, insert magazine and pull trigger.

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0061

MAINTAIN A BELGIAN BROWNING HIGH POWER (P35) PISTOL,
MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given a P35; a magazine containing six rounds of 9mm Parabellum ammunition; cleaning compound; a solvent; clean, dry rags; and PL Special lubricating oil.

STANDARDS:

Within 20 minutes, disassemble, clean, and reassemble the weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)

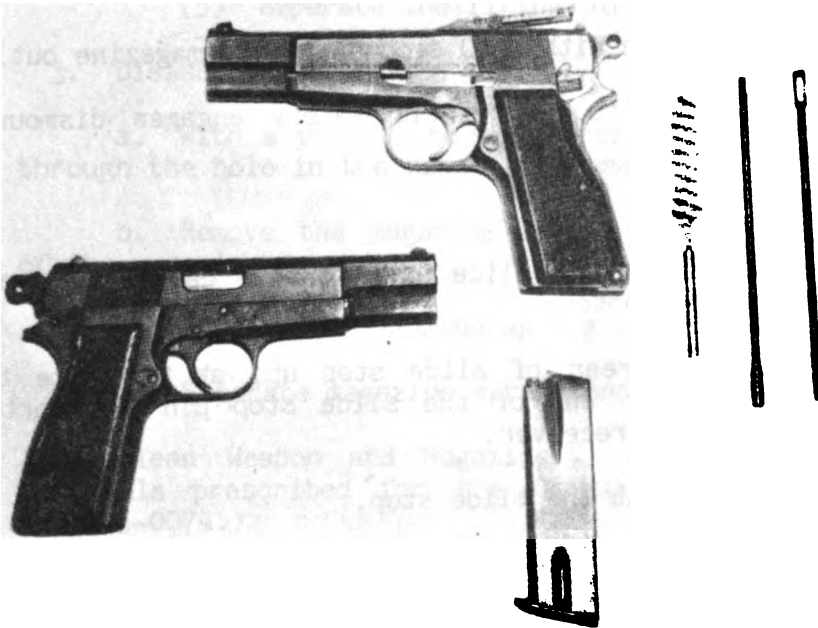
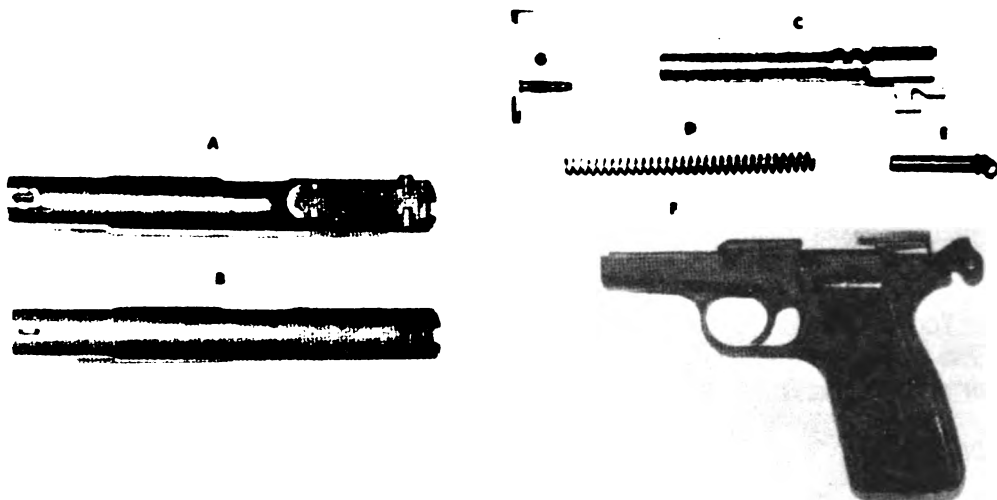


Figure 1



PISTOL P35 BELGIUM

- | | |
|---------------------------------|------------------------|
| A. Slide Group (Canadian Model) | E. Recoil Spring Guide |
| B. Slide Group | F. Receiver Group |
| C. Barrel | G. Slide Stop |
| D. Recoil Spring | |

Figure 2

2. Disassemble Weapon Within 1 Minute.

- a. Clear weapon within 10 seconds (leave magazine out).
- b. Pull slide to rear until safety engages dismounting notch.
- c. Remove slide stop:
 - (1) Retract the slide until safety can be pressed up into the dismounting notch.
 - (2) Press rear of slide stop up; at the same time, press in on the right end of the slide stop pin to start the slide stop out of the receiver.
 - (3) Pull out the slide stop.
- d. Remove slide assembly:
 - (1) Hold slide firmly and release thumb safety allowing slide to move forward.
 - (2) Pull slide from receiver.

e. Remove the barrel from the slide:

(1) Pull forward on driving spring guide (out of its seat in the barrel).

(2) Ease the guide and spring up and out of the slide.

(3) Pull the rear end of the barrel out of the slide.

(4) Pull the barrel to the rear until it is free.

f. Disassemble slide assembly:

(1) Hold slide with muzzle end pointed down.

NOTE: USE SLIDE STOP AS A TOOL.

(2) Press firing pin forward into its recess.

(3) Hold the thumb of the other hand over the firing pin recess and remove firing pin stop.

(4) Remove the firing pin and firing pin spring from their recess.

(5) Separate the firing pin and firing pin spring.

3. Disassemble Magazine.

a. With a pointed object, press in on the magazine spring through the hole in the base of the magazine.

b. Remove the magazine base by sliding it off the rails of the magazine.

c. Remove the magazine spring and follower.

d. Separate magazine spring and follower.

4. Clean Weapon and Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Reassemble Magazine.

a. Assemble magazine spring and follower.

b. Insert magazine spring and follower into magazine.

c. Compress magazine spring and slide the base onto the magazine until it locks.

6. Reassemble Weapon Within 3 Minutes.

a. Assemble slide assembly:

(1) Assemble firing pin and firing pin spring.

(2) Replace firing pin and spring into their recess in the slide, muzzle pointed down.

(3) Hold the thumb of the other hand over the firing pin recess to compress the firing pin spring.

(4) Align the firing pin stop with its grooves in the rear of the slide and replace it halfway (rounded portion pointed to the top of the slide).

NOTE: USE SLIDE STOP AS A TOOL.

(5) Press in on the end of the firing pin and slowly slide the firing pin stop in while withdrawing the slide stop until the firing pin stop locks into place.

b. Reassemble barrel into slide assembly:

(1) Insert muzzle end of barrel into slide and press to rear until locking ribs snap into place.

(2) Insert driving spring into front of slide, then mate driving spring guide to barrel.

NOTE: The hole in the guide must be toward the barrel.

c. Replace slide assembly:

(1) Start slide onto rails of receiver (from the front).

(2) Pull slide back until safety can engage dismounting notch.

d. Replace the slide stop pin (left to right).

e. Release the slide by pushing the safety down.

7. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

8. Perform Function Check Within 20 Seconds.
 - a. Push thumb safety lever up to "SAFE" position.
 - b. Pull trigger; hammer should not go forward.
 - c. Push thumb safety lever down to "FIRE" position.
 - d. Pull trigger; hammer should not go forward.
 - e. Insert magazine.
 - f. Pull trigger; hammer should go forward.

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0072

IDENTIFY AND DESCRIBE SELECTED RIFLES

CONDITIONS:

You will be given a 15-second view of each selected rifle or a 15-second view of a photograph, illustration, or model of each selected rifle.

STANDARDS:

1. Correctly identify each rifle.
2. Describe each rifle (2 minutes per gun).
 - a. Country of origin.
 - b. Military designation.
 - c. Cartridge type.
 - d. Type of feed.
 - e. Locking system.
 - f. System of operation.
 - g. Maximum effective range.

PERFORMANCE MEASURES:

1. Identify the G3A4 (fig. 1).



Figure 1

- a. Country of origin: Germany.
 - b. Military designation: G3A4 rifle.
 - c. Cartridge type: 7.62mm NATO.
 - d. Type of feed: 20-round box magazine.
 - e. Locking system: Roller.
 - f. System of operation: Delayed blowback, selective firing.
 - g. Maximum effective range: 460 meters.
2. Identify the FN FAL (fig. 2)

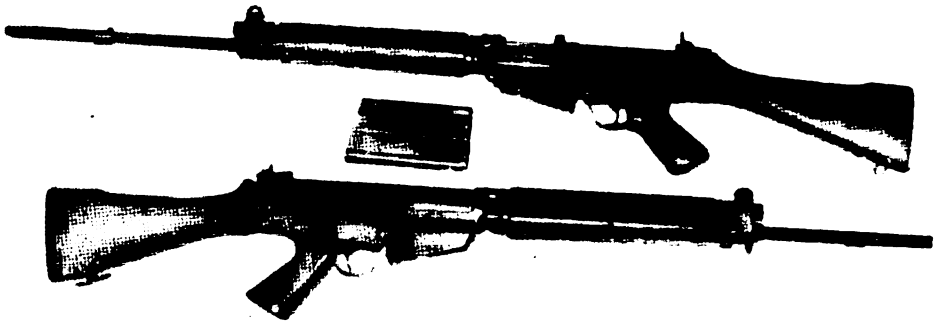


Figure 2

- a. Country of origin: Belgium.
 - b. Military designation: FN rifle.
 - c. Cartridge type: 7.62mm NATO.
 - d. Type of feed: 20-round box magazine.
 - e. Locking system: Lowering bolt.
 - f. System of operation: Gas (tappet), semiautomatic or selective fire.
 - g. Maximum effective range: 460 meters.
3. Identify the AKM (fig. 3).



Figure 3

- a. Country of origin: USSR.
 - b. Military designation: AK rifle.
 - c. Cartridge type: 7.62mm M1943 Soviet.
 - d. Type of feed: 30-round box magazine.
 - e. Locking system: Rotating bolt.
 - f. System of operation: Gas (blast), selective fire.
 - g. Maximum effective range: 460 meters.
4. Identify the M16 (fig. 4).

Figure 4

- a. Country of origin: USA.
 - b. Military designation: M16A1.
 - c. Cartridge type: 5.56mm.
 - d. Type of feed: 20- or 30-round magazine.
 - e. Locking system: Rotating bolt.
 - f. System of operation: Gas (direct), selective fire.
 - g. Maximum effective range: 460 meters.
5. Identify the M1 (fig. 5).

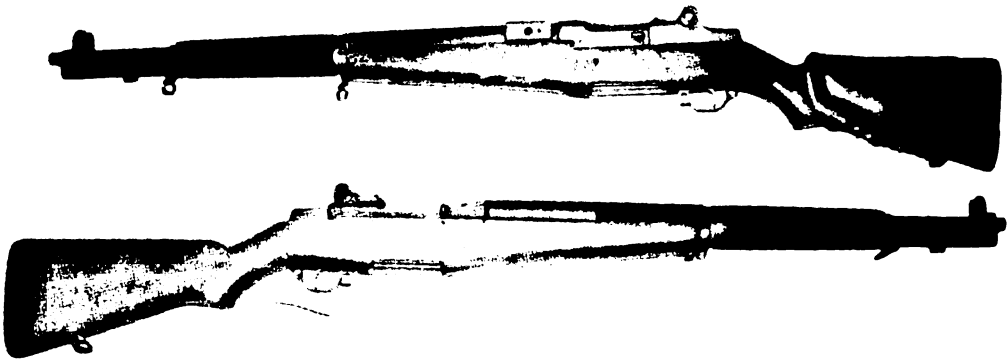


Figure 5

- a. Country of origin: USA.
 - b. Military designation: M1 rifle.
 - c. Cartridge type: Caliber .30.
 - d. Type of feed: 8-round clip.
 - e. Locking system: Rotating bolt.
 - f. System of operation: Gas (blast), semiautomatic.
 - g. Maximum effective range: 460 meters.
6. Identify the M2 (fig. 6).



Figure 6

- a. Country of origin: USA.
 - b. Military designation: M2 carbine.
 - c. Cartridge type: Caliber .30 carbine.
 - d. Type of feed: 15- or 30-round box magazine.
 - e. Locking system: Rotating bolt.
 - f. System of operation: Gas (tappet), selective fire.
 - g. Maximum effective range: 300 meters.
7. Identify the SKS (fig. 7).

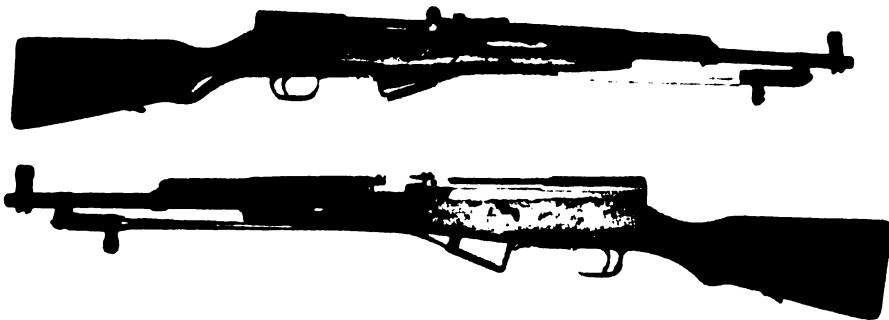


Figure 7

- a. Country of origin: USSR.
 - b. Military designation: SKS carbine.
 - c. Cartridge type: 7.62 x 45mm M1943 Soviet.
 - d. Type of feed: 10-round, semifixed, box magazine.
 - e. Locking system: Lowering bolt lock.
 - f. System of operation: Gas (tappet), semiautomatic only.
 - g. Maximum effective range: 460 meters.
8. Identify the BAR (fig. 8).

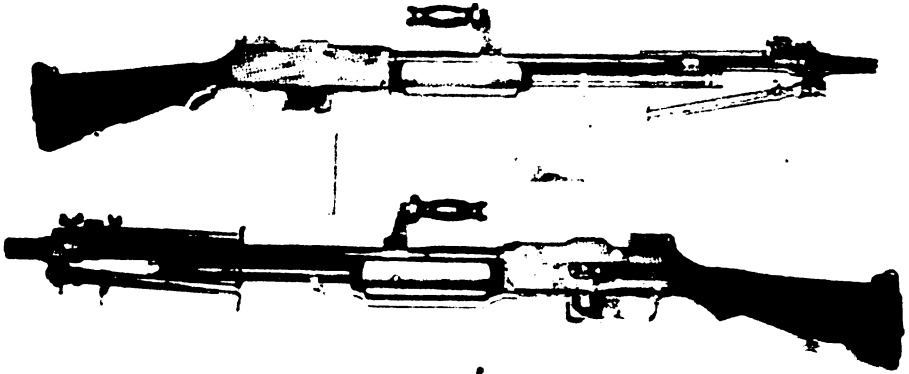


Figure 8

- a. Country of origin: USA.
 - b. Military designation: M1918A2 BAR.
 - c. Cartridge type: Caliber .30.
 - d. Type of feed: 20-round box magazine.
 - e. Locking system: Rising bolt lock.
 - f. System of operation: Gas (blast), automatic only.
 - g. Maximum effective range: 460 meters.
9. Identify the .303 (fig. 9).

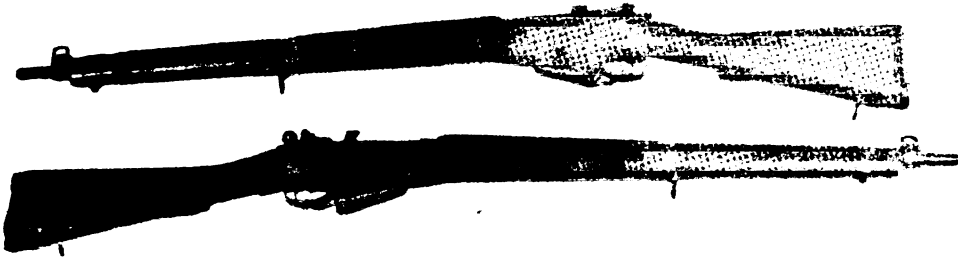


Figure 9

- a. Country of origin: UK.
 - b. Military designation: Enfield No. 4, MK 1 rifle.
 - c. Cartridge type: .303 rimmed.
 - d. Type of feed: 10-round box magazine.
 - e. Locking system: Rotating bolt.
 - f. System of operation: Manual turn bolt.
 - g. Maximum effective range: 460 meters.
10. Identify the M1903A4 (fig. 10).

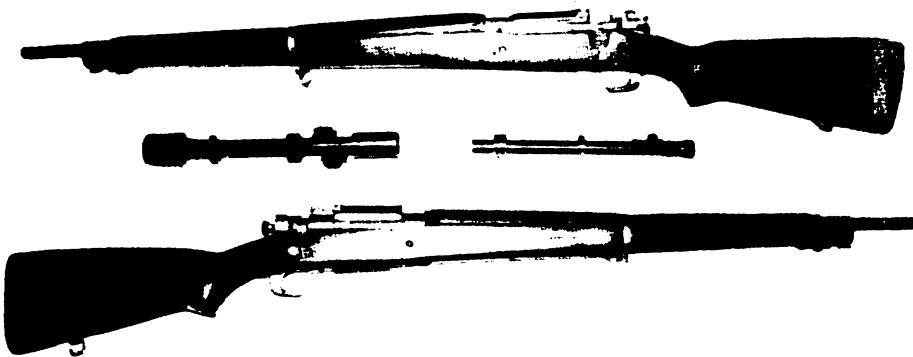


Figure 10

- a. Country of origin: USA.
- b. Military designation: M1903A4 rifle.
- c. Cartridge type: Caliber .30 rifle.
- d. Type of feed: 5-round fixed-box magazine.
- e. Locking system: Rotating bolt.
- f. System of operation: Manual turn bolt.
- g. Maximum effective range: 460 meters or 1,000 meters with scope.

11. Identify the M14 (fig. 11).

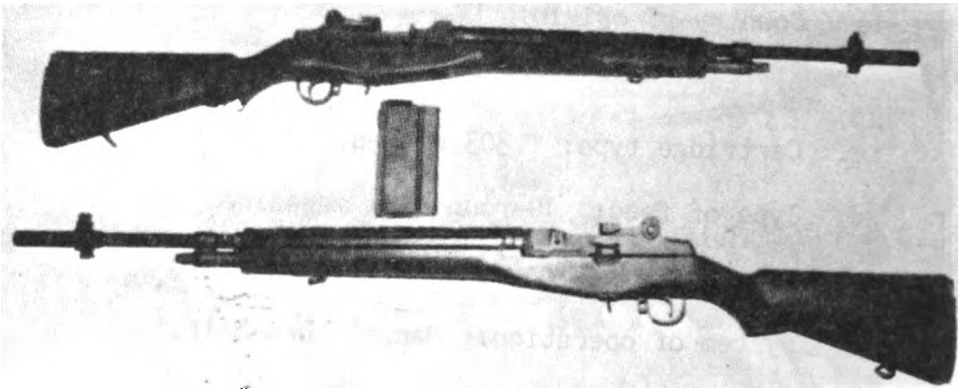


Figure 11

- a. Country of origin: USA.
- b. Military designation: M14 rifle.
- c. Cartridge type: 7.62mm NATO.
- d. Type of feed: 20-round box magazine.
- e. Locking system: Rotating bolt.
- f. System of operation: Gas (tappet), semiautomatic or selective fire.

g. Maximum effective range: 460 meters.

12. Identify the SVD (fig. 12).

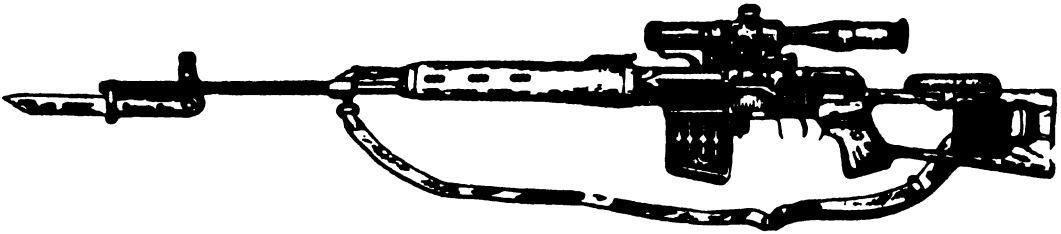


Figure 12

- a. Country of origin: USSR.
 - b. Military designation: SVD.
 - c. Cartridge type: 7.62 x 54R.
 - d. Type of feed: Magazine.
 - e. Locking system: Rotating bolt.
 - f. System of operation: Gas, short stick piston.
 - g. Maximum effective range: 1,300 meters.
13. Identify the M1200 (fig. 13).

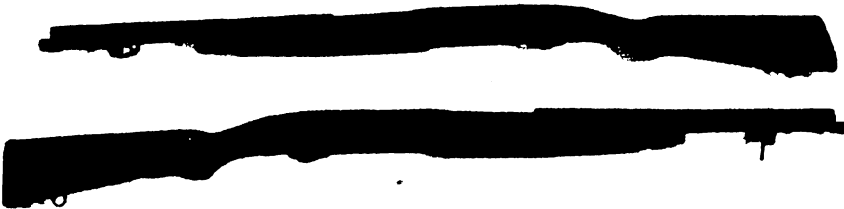


Figure 13

- a. Country of origin: USA.
- b. Military designation: M1200 riot shotgun.
- c. Cartridge type: 12 gauge.
- d. Type of feed: 5-round cylinder magazine.
- e. Locking system: Rotating bolt.
- f. System of operation: Manual pump.
- g. Maximum effective range: 50 meters.

REFERENCE:

None

331-915-0073

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD,
AND CLEAR A GERMAN G3A4 RIFLE

CONDITIONS:

You will be given a G3A4 and a magazine containing five rounds of 7.62 NATO ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.

a. Adjust weapon:

(1) The "L" type rear sight is graduated for 200 and 300 meters. Flip the sight to the specified range.

(2) The drum type rear sight has a 100-meter "V" notch plus 200-, 300-, and 400-meter apertures. Turn the drum sight to the specified range. (See fig. 1)

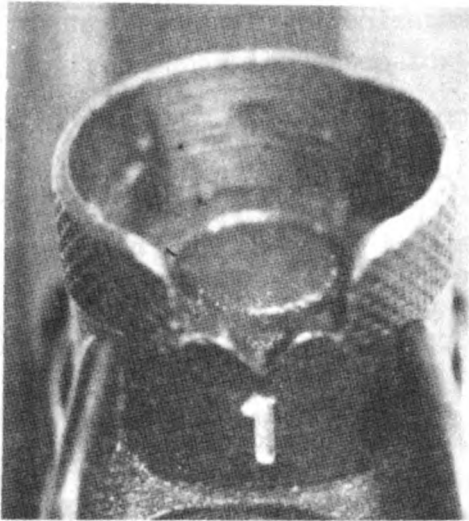


Figure 1

- b. Load the weapon within 10 seconds: (See fig. 2).



Figure 2

(1) Place rifle on "SAFE" by rotating selector to its upper position.

(2) Hold magazine by its base at a slight forward angle.

(3) Seat top front lip of magazine into receiver.

(4) Insert magazine into housing.

(5) Pull magazine base to the rear until magazine catch snaps into place.

(6) Unfold operating handle, pull it to the rear, and release it.

- c. Fire weapon within 5 seconds:

(1) Rotate the selector down from "SAFE" position (middle position for semiautomatic and lowest position for full automatic fire).

(2) Using a normal sight picture, aim and fire. (Bolt remains forward when last round is fired. The operating handle remains forward during firing.)

2. Take Immediate Action To Reduce a Stoppage.

a. Apply immediate action within 5 seconds:

(1) Tap upward on the bottom of magazine.

(2) Unfold operating handle and pull it to the rear and release it.

(3) Attempt to fire weapon.

b. If immediate action fails to reduce the stoppage, proceed as follows:

(1) Pull operating rod to the rear and inspect chamber for obstruction.

(2) If chamber is obstructed, turn in weapon.

(3) If chamber is clear, insert another magazine, release operating handle, and attempt to fire.

(4) If weapon still fails to fire, unload, clear, and turn in.

3. Unload and Clear Weapon Within 10 Seconds.

a. Unload:

(1) Press magazine catch forward.

(2) Remove magazine.

b. Clear:

(1) Rotate selector up to "SAFE" position.

(2) Pull operating handle to rear, rotating it into retaining notch.

(3) Inspect chamber.

(4) Pull operating handle to rear, rotating down out of the retaining notch, and release it.

FM 31-11B-S

(5) Move selector to "FIRE" position.

(6) Press trigger and return selector to "SAFE."

REFERENCE:

TEC Lesson 011-331-0073, Operate a German G3A4 Rifle

331-915-0074

MAINTAIN A GERMAN G3A4 RIFLE, MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given a G3A4; five rounds of 7.62mm NATO ammunition; a magazine, cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, linseed oil, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

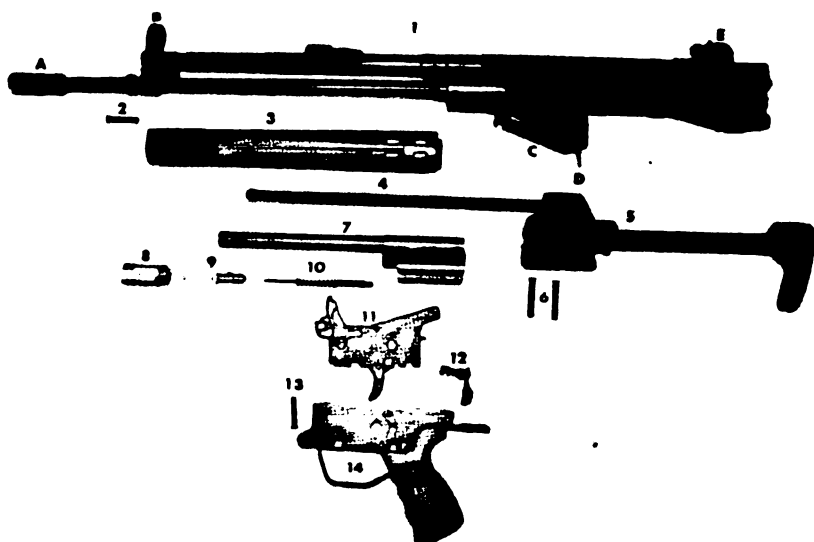
Within 50 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)



Figure 1



RIFLE G3A4 WEST GERMANY

- | | | |
|--------------------------|--|--------------------|
| 1. RECEIVER WITH BARREL | 4. RECOIL SPRING TUBE WITH RECOIL SPRING | 12. SELECTOR LEVER |
| A. FLASH SUPPRESSOR | 5. BACK PLATE WITH RETRACTABLE STOCK | 13. GRIP ASSEMBLY |
| B. FRONT SIGHT | 6. BUTT STOCK LOCKING PINS | LOCKING PIN |
| C. MAGAZINE WELL | 7. BOLT | 14. GRIP (PISTOL) |
| D. MAGAZINE CATCH | 8. BOLT HEAD | |
| E. REAR SIGHT | 9. BOLT BODY WITH RECOIL SPRING TUBE | |
| 2. HANDGUARD LOCKING PIN | 10. FIRING PIN WITH FIRING PIN SPRING | |
| 3. HANDGUARD | 11. FIRING MECHANISM | |

Figure 2

2. Disassemble Weapon Within 2 Minutes.

- a. Clear weapon within 10 seconds and set on "SAFE." (Do not pull trigger.)
- b. Remove stock retaining pins and stock.
- c. Allow trigger group to hang down on its front pin.
- d. Point the muzzle up, pull operating handle to the rear, and remove bolt assembly.
- e. Turn bolthead 90° to the right and pull out of carrier.
- f. Turn locking cam, firing pin, and spring.

3. Disassemble Magazine.

- a. Use a pointed object to raise the rear of the magazine base until the indentation on the base is clear of the magazine.

- b. Grasp the magazine so that one finger covers the base.
- c. Remove the base and guide the spring, one coil at a time, to clear the retaining lips of the magazine.
- d. Remove and separate the magazine spring and follower.

4. Clean Weapon and Magazine.

- NOTE: (1) Cleaning compound solvent (CR) is used to clean metallic or plastic parts of weapon. This cleanser has preservative properties and provides temporary protection against rust. In the absence of CR, volatile mineral spirits, paint thinner, and drycleaning solvent are acceptable as noncorrosive cleaning solvents.
- (2) The following lubricants are used:
- (a) Lubricating oil, general purpose, PL Special, is a thin oil used for lubricating above 0° F and for providing temporary protection against rust.
 - (b) Engine oil SAE 10 may be used when lubricating and preservative oil cannot be obtained. When engine oil is used, the weapon must be inspected, cleaned, and oiled frequently.
 - (c) LAW weapons lubricating oil is to be used at temperatures below 0° F.
- (3) Cotton wiping rags should be soft and absorbent and free of dust, alkali, or corrosive agents.

a. Clean metallic and plastic parts of weapon using cleanser noted above.

b. Dry weapon thoroughly and apply a light coat of oil to all metallic surfaces.

c. Clean wooden parts with a dry rag and rub lightly with linseed oil (rub with linseed oil only occasionally).

5. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Reassemble Magazine.

a. Reposition the spring inside the follower with the rectangular-shaped end of the spring against the rear of the follower.

b. Replace the follower and spring inside the magazine.

c. Replace the magazine base.

7. Reassemble Weapon Within 4 Minutes.

a. Insert locking cam and firing pin with spring into bolthead. Insure the lug on locking cam aligns with rounded side of bolthead.

b. Place bolthead (bolt face down) on firm surface and place bolt carrier on assembled bolthead/locking cam unit.

c. Seat bolthead against carrier by striking rear end of bolt carrier with hand.

d. Turn bolthead slightly to left, pulling it forward about one-fourth of an inch, then rotate to the left. Do not push bolthead back into carrier. Pushing bolthead back into carrier will lock rollers outward, preventing proper assembly.

(1) If this happens, swing trigger group down on its pin.

(2) Reverse bolt unit and insert into receiver as far as possible.

(3) Strike projecting driving spring tubular housing (on bolt carrier) causing rollers to retract into bolt.

(4) The entire unit will now go farther into receiver.

(5) Remove reversed bolt unit and continue.

e. When locking rollers are flush with sides of bolthead, insert complete bolt assembly into receiver.

f. Point muzzle down, allowing bolt to slide forward.

g. Swing trigger group up into place.

h. Slide butt over the rear of receiver, insuring that the driving spring enters recess in bolt carrier.

i. Replace takedown pins in receiver.

8. Perform Function Check Within 20 Seconds. (Follow procedures prescribed for the M16A1 rifle, task number 071-311-2001, FM 7-11B1/2.)

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman
TEC Lesson 011-331-0074, Maintain a German G3A4 Rifle

331-915-0075

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD,
AND CLEAR A BELGIAN FN FAL RIFLE

CONDITIONS:

You will be given an FN FAL and a magazine containing 19 rounds of 7.62 x 51mm ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.
 - a. Adjust rear sight: (See fig. 1)

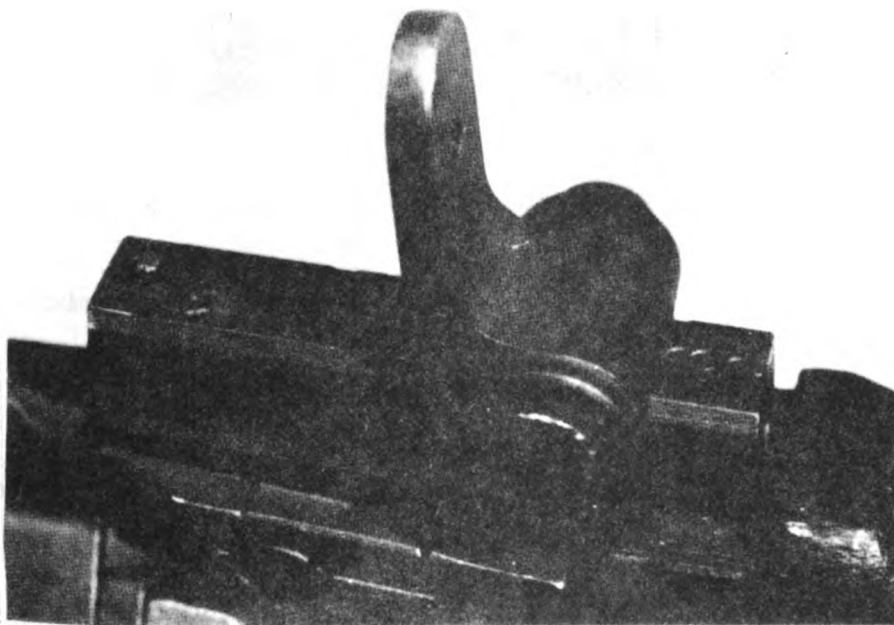


Figure 1

(1) Unfold and press in on the slide lock.

(2) Slide the aperture to the specified range in hundred meters (100-460 meters).

b. Adjust gas plug for firing rifle grenades by pressing in on the plunger of the plug and rotating it to the required position. (See fig. 2)

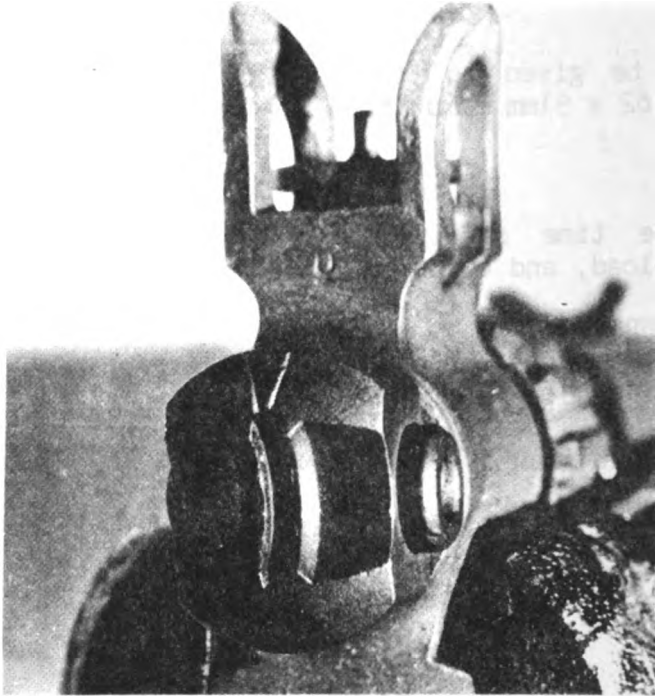


Figure 2

(1) Normal firing position is with the symbol on the plug up.

(2) Grenade firing position is with the symbol on the plug down or the letters "GR" showing.

c. Load weapon within 10 seconds:

(1) Grasp magazine by its base, holding it at a slight forward angle; front magazine lip should be seated in receiver.

(2) Insert magazine into magazine housing.

(3) Pull bottom of magazine forward until catch snaps into place.

(4) Rotate selector to "SAFE."

d. Fire weapon within 5 seconds:

(1) Pull operating handle to the rear and release.

(2) Rotate selector from "SAFE" position (down for semiautomatic or forward for fully automatic).

(3) Aim and fire. If the weapon does not fire because of failure to properly chamber, adjust the gas regulator.

e. Adjust gas regulator:

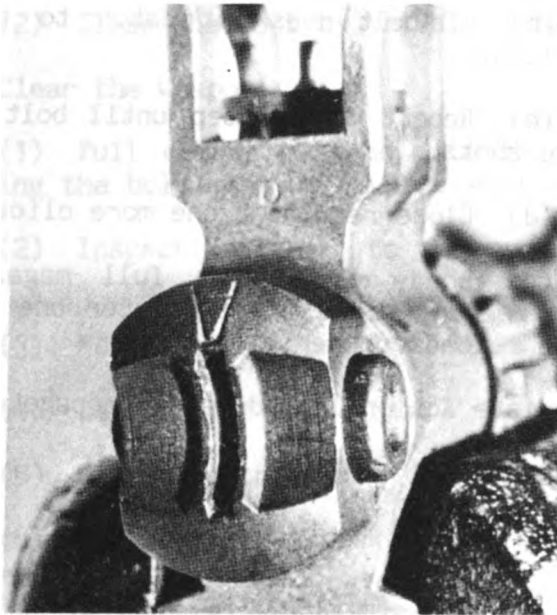


Figure 3

(1) Move the forward face back until the gas port is uncovered.

(2) Insert an empty magazine.

(3) Procedure for square forward face models.

(a) Close regulator 20 clicks.

(b) Load and fire one round.

(c) If the bolt does not catch to the rear, close the regulator five more clicks.

(d) Repeat above step until bolt will catch for five consecutive shots and then close regulator three more clicks.

(e) Load and fire a full magazine. If the weapon fails to reload, close the regulator two clicks at a time until the weapon reloads properly.

(4) Procedure for angle-cut forward face models.

(a) Load and fire one round.

(b) If bolt does not catch to the rear, close regulator one click.

(c) Repeat above step until bolt will catch for five consecutive shots.

(d) Close regulator one more click.

(e) Load and fire a full magazine. If the weapon fails to reload, close the regulator one click at a time until the weapon reloads properly.

2. Take Immediate Action To Reduce a Stoppage.



Figure 4

a. Apply immediate action within 5 seconds.

(1) Pull operating handle to the rear and release.

(2) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.

3. Unload and Clear Weapon Within 10 Seconds.

a. Unload weapon:

(1) Press magazine catch forward while rotating magazine forward out of weapon.

(2) Close the bolt by pressing down the bolt stop.

b. Clear the weapon:

(1) Pull operating handle to the rear and release it while holding the bolt stop up. (Bolt will remain open.)

(2) Inspect chamber to be sure no cartridges are present.

(3) Move the selector from "SAFE."

(4) Depress the bolt stop.

(5) Press the trigger.

(6) Set the safety back on "SAFE."

REFERENCE:

TEC Lesson 011-331-0075, Operate a Belgian FN FAL Rifle

331-915-0076

MAINTAIN A BELGIAN FN FAL RIFLE, MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given an FN FAL; five rounds of 7.62 x 51mm ammunition; a magazine, cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 50 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts.



RIFLE FN FAL BELGIAN

- | | |
|-------------------|----------------------------|
| 1. Magazine | 5. Barrel & Upper Receiver |
| 2. Bolt Carrier | 6. Receiver Pivot Lock |
| 3. Bolt | 7. Receiver Pivot Pin |
| 4. Receiver Cover | 8. Lower Receiver |

Figure 1

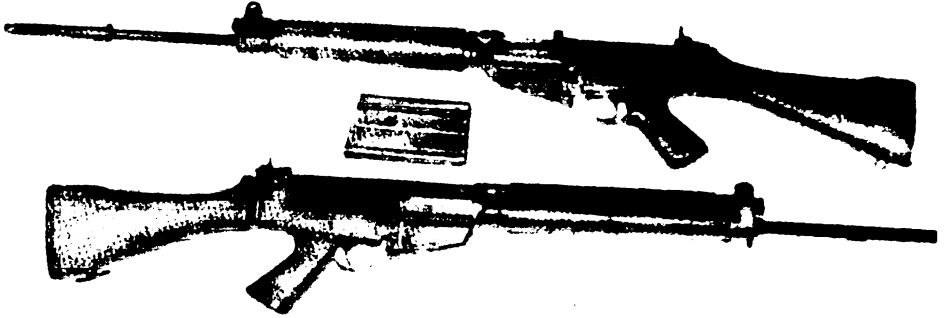


Figure 2

2. Disassemble Weapon Within 4 Minutes.

a. Unload weapon:

(1) Press magazine catch forward while rotating magazine forward out of weapon.

(2) Close the bolt by pressing down the bolt stop.

b. Clear the weapon within 10 seconds: (Do not pull trigger or insert the magazine.)

(1) Pull operating handle to the rear and release it while holding the bolt stop up. (Bolt will remain open.)

(2) Inspect chamber to be sure no cartridges are present.

(3) Move the selector from "SAFE" to "SEMI-AUTOMATIC."

(4) Depress the bolt stop.

(5) Press the trigger.

(6) Set the safety back on "SAFE."

c. Swing rifle open:

(1) Press vertical takedown lever to the rear or horizontal takedown lever up.

(2) Hold weapon by handguard and press buttstock down.

d. Pull bolt cover to the rear and off receiver.

e. Remove bolt:

(1) Grasp rod extending from the rear of bolt carrier; pull bolt and carrier to the rear and out of receiver.

(2) Hold bolt carrier horizontally and push bolt back into carrier until bolt drops.

(3) Press ends of firing pin, dropping bolt clear of carrier.

f. Remove gas piston:

(1) Using pointed object, force in plunger on side of gas plug.

(2) Rotate and remove plug, piston, and piston spring.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the G3A4 rifle, task number 331-915-0074.)

5. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105.)

6. Reassemble Weapon Within 6 Minutes.

a. Replace piston and spring:

(1) Insert piston and spring into their tube, forcing them into place with the gas plug.

(2) With its lugs vertical, continue to push the plug in as far as possible.

(3) Depress plunger and rotate plug to secure it in place.

b. Replace bolt:

(1) Holding bolt at an angle, insert it into bolt carrier so that firing pin enters its hole in rear of carrier.

(2) While pressing in on protruding end of the firing pin, push bolt rearward until it seats in carrier.

c. Replace carrier:

(1) Insure bolt is forward in carrier.

(2) Hold opened rifle muzzle down and align the rails of carrier with grooves in receiver.

(3) Slide carrier forward.

(4) Align bolt cover with groove in receiver and slide cover forward.

d. Swing rifle shut and pull the trigger releasing the hammer.

e. Place selector on "SAFE."

7. Perform Function Check Within 20 Seconds.

(Follow procedures prescribed for the M16A1 rifle, task number 071-311-2001, FM 7-11B1/2.)

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman
TEC Lesson 011-331-0076, Maintain a Belgian FN FAL Rifle

331-915-0077

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
AN AMERICAN M2 CARBINE

CONDITIONS:

You will be given an M2 and a magazine containing 19 rounds of caliber .30 ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.
 - a. Adjust weapon:
 - (1) Adjust rear sight: (See fig. 1)

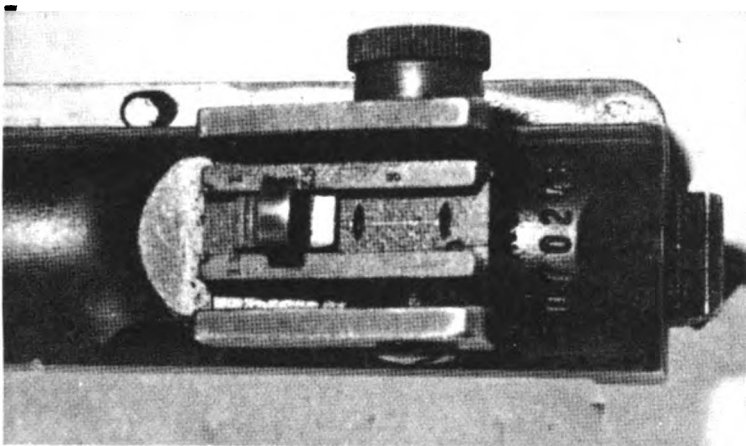


Figure 1

(a) Slide ramp type sight to the specified range (1 = 100, 2 = 200, 2.5 = 250, and 3 = 300 yards of range).

(b) Turn windage knob in the direction that you wish to move the strike of the bullet (right or left).

(2) Set selector lever: (See fig. 2)

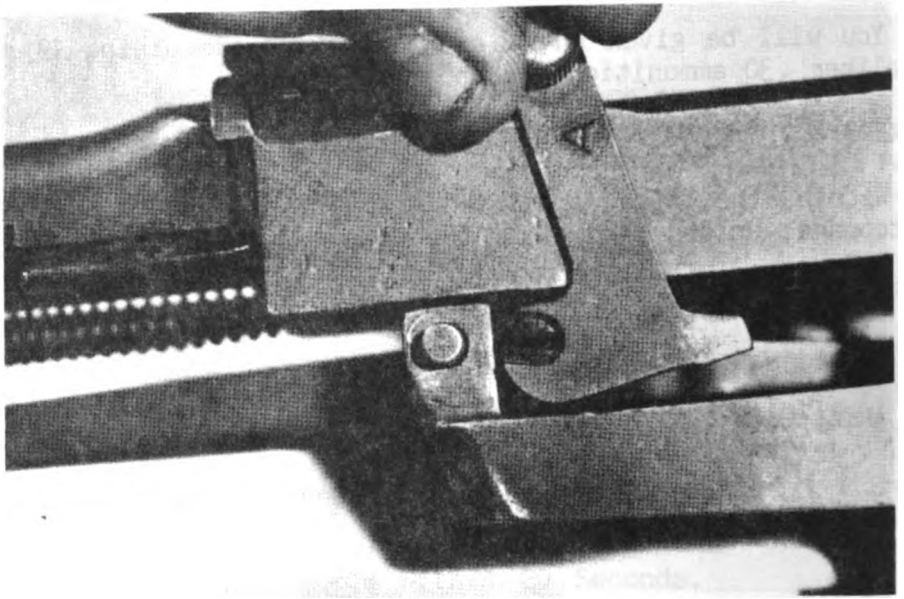


Figure 2

(a) Rear - "SEMIAUTOMATIC."

(b) Forward - "AUTOMATIC."

b. Load weapon within 10 seconds:

(1) Hold weapon with left hand at balance and turn safety down to "SAFE."

(2) Pull operating slide back and lock it by depressing the operating slide stop.

(3) With right hand, insert loaded magazine into magazine opening until it snaps.

(4) Tap up on magazine base to seat.

(5) Pull operating slide rearward to unlock and allow it to go forward.

c. Fire weapon within 5 seconds:

(1) Turn safety lever up to "FIRE."

(2) Aim and fire.

2. Take Immediate Action To Reduce a Stoppage.

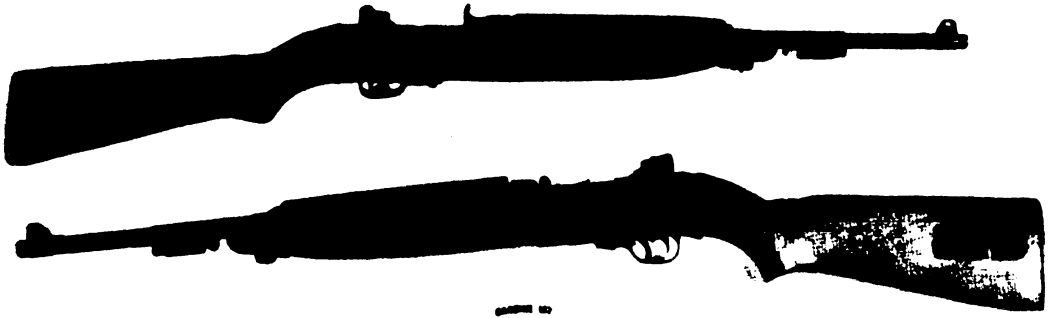


Figure 3

a. Apply immediate action within 5 seconds:

(1) With right hand, palm up, pull operating slide to the rear and release.

(2) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.

3. Unload and Clear Weapon Within 10 Seconds.

a. Unload weapon:

- (1) Turn safety down to "SAFE."
- (2) Press magazine catch.
- (3) Remove magazine.

b. Clear weapon:

- (1) Lock bolt in open position.
- (2) Inspect chamber for rounds.
- (3) Allow bolt to go forward.

REFERENCES:

TEC Lesson 011-331-0077, Operate an American M2 Carbine Magazine, and Ammunition

331-915-0078

 MAINTAIN AN AMERICAN M2 CARBINE, MAGAZINE, AND AMMUNITION

CONDITIONS:

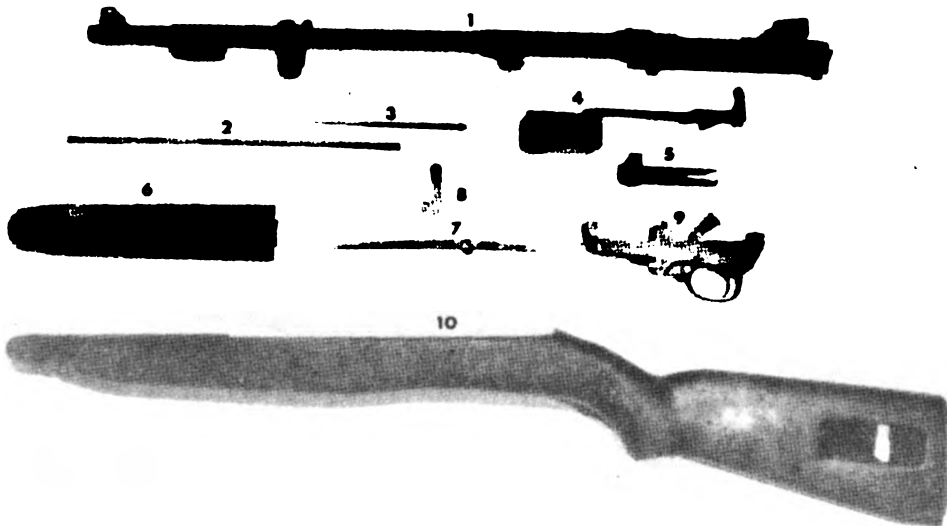
You will be given an M2; five rounds of caliber .30 ammunition; a magazine, cleaning rod, wire bore brush, screwdriver, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See fig 1.)



CARBINE M2 USA

- | | |
|------------------------|-------------------------------|
| 1. Barrel & Receiver | 6. Handguard |
| 2. Recoil Spring | 7. Disconnect Lever Assembly |
| 3. Recoil Spring Guide | 8. Selector & Selector Spring |
| 4. Operating Slide | 9. Trigger Group |
| 5. Bolt | 10. Stock |

Figure 1

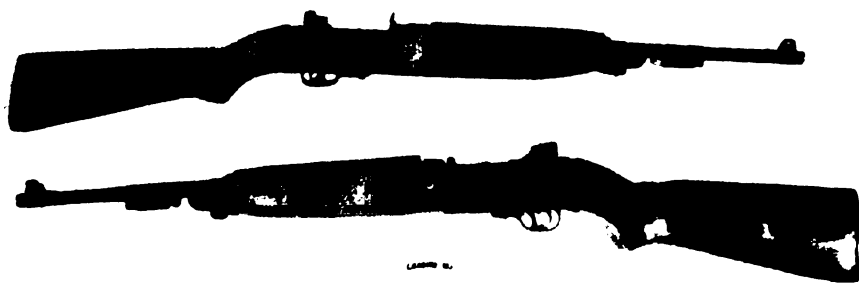


Figure 2

2. Disassemble Weapon Within 3 Minutes. (See figs. 1 thru 4)
 - a. Clear weapon within 10 seconds, leaving the magazine out.
 - b. Remove sling:
 - (1) Hold weapon near upper sling swivel.
 - (2) Unsnap and remove sling from upper sling swivel.
 - (3) Remove lower loop from the adjusting buckle and withdraw the free end of the sling from around the oiler.
 - c. Remove oiler from its recess in the stock.
 - d. Remove wooden handguard:
 - (1) Hold weapon in left hand so that front band screwhead points to the right.

(2) Use a screwdriver to loosen front band screw about one-eighth of an inch.

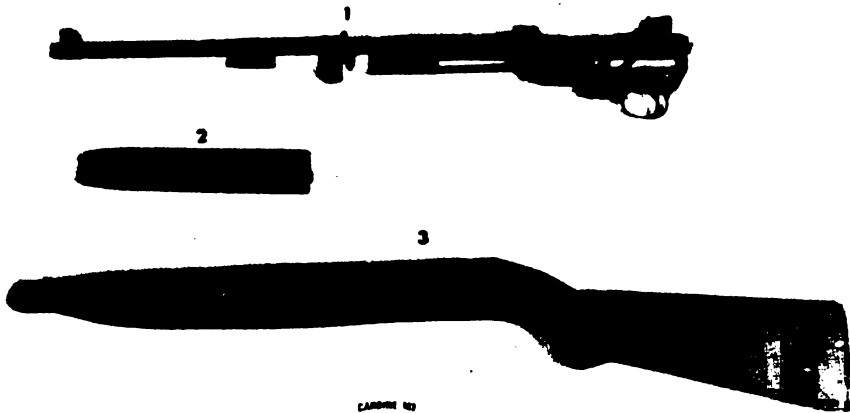
(3) Press front band locking spring.

(4) Slide front band forward, disengaging it from stock group and handguard.

NOTE: If front band sticks, place bayonet lug over edge of table, press front band locking spring, and pull weapon downward, sliding front band forward.

(5) Slide handguard forward until its rear end clears groove in front of receiver.

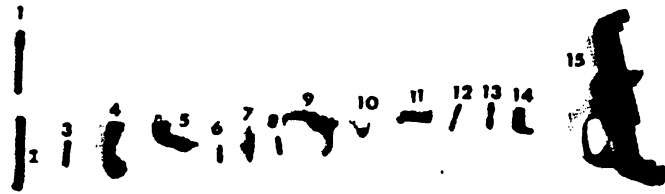
e. Separate barrel and receiver group from stock group: (See fig. 3)



CARBINE M2 USA

- | | |
|----------------------------|----------------|
| 1. Barrel & Receiver Group | 3. Stock group |
| 2. Hand Guard | |

Figure 3



CARBINE M2 USA

- | | |
|--------------------------|--|
| 1. Hammer Spring Plunger | 10. Trigger Spring |
| 2. Hammer Spring | 11. Magazine Catch |
| 3. Hammer Pin | 12. Magazine Catch Plunger Assembly |
| 4. Hammer | 13. Magazine Catch Retainer Plunger Assembly |
| 5. Disconnecter | 14. Safety |
| 6. Trigger Pin | 15. Trigger Housing |
| 7. Sear | |
| 8. Sear Spring | |
| 9. Trigger | |

Figure 4

(1) Place weapon on flat surface, muzzle pointing left and sights up.

(2) Hold small of stock in one hand and barrel in the other.

(3) Raise muzzle end of barrel (about 15°) until recoil plate is released from receiver.

(4) Separate barrel and receiver group from stock group.

f. Remove operating slide spring and guide:

(1) Place barrel and receiver group on level surface with muzzle pointing left, sight down.

(2) Pull operating slide spring and guide to the rear, unseating operating slide spring guide from its well in receiver.

(3) Remove operating slide spring and guide and separate the two parts (operating slide spring guide can be used as tool in further disassembly).

g. Remove selector spring:

(1) Turn the selector to rear position ("SEMIAUTOMATIC").

(2) Insert point of operating slide spring guide into loop of selector spring.

(3) Push loop end down to dismount notch and remove selector spring.

h. Turn selector to forward position ("AUTOMATIC").

i. Slide selector to rear, disengaging selector slot from straddle slots on trigger housing and selector pin.

j. Remove disconnecter assembly:

(1) If disconnecter has shoulder,

(a) Push on trigger housing and selector pin, unseating disconnecter lever.

(b) Remove disconnecter lever assembly.

(2) If disconnecter has slotted groove,

(a) Disengage rear end of disconnecter lever.

(b) Unseat disconnecter lever assembly.

(c) Rotate crank forward, disengaging rear end of lever from slotted groove.

(d) Remove disconnecter lever assembly.

k. Remove the trigger housing group:

(1) Hold barrel and receiver in left hand, muzzle pointing left and sights up.

(2) Slide housing group off the rear. (Be careful not to lose disconnecter spring and plunger assembly.)

l. Remove operating slide:

(1) Place barrel and receiver on level surface, muzzle pointing forward, sights up.

(2) Lift rear of barrel and receiver.

(3) Pull operating slide handle completely to the rear.

(4) Move operating slide forward using an upward and outward pressure until guide lug on operating slide handle engages its dismount notch.

(5) Pull operating slide handle up and to the right, allowing operating slide to partially disengage from lug on bolt.

(6) Hold the heavy portion of operating slide and move it forward about one-fourth of an inch until left guide lug is opposite its relief cut in groove on left underside of barrel.

(7) Rotate operating slide counterclockwise and remove.

m. Remove bolt:

(1) Position weapon as in "1(1)" above.

(2) Pull bolt operating lug back until its face is just back of locking recesses.

(3) Rotate bolt to the left until operating lug is straight up, disengaging left locking lug on bolt.

(4) Rotate bolt to the right until level.

(5) Raise it to a 45° angle to remove it from receiver.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074).

4. Reassemble Weapon Within 7 Minutes. (See figs. 1 and 4)

a. Replace bolt:

(1) Place barrel and receiver on level surface, muzzle pointing forward, sights up.

(2) Lift rear of barrel and receiver.

(3) Hold operating lug of bolt and place base of bolt over bridge of receiver.

(4) From a 45° angle with operating lug pointing right, lower bolt engaging its left locking lug in receiver groove.

(5) Slide bolt to the rear.

b. Replace operating slide:

(1) Position barrel and receiver as in "a(1)" above.

(2) Move bolt forward until front end is about 1 1/2 inches from chamber.

(3) Keeping bolt in place, hold heavy portion of operating slide and engage bolt operating lug in operating slide camming recess.

(4) Place the heavy portion of slide so that left guide lug is opposite relief cut in groove on left underside of barrel.

(5) Rotate operating slide clockwise and engage two guide lugs in barrel grooves.

(6) Move operating slide and bolt back until operating slide handle guide lug engages dismount notch and is seated in receiver guide groove.

(7) Close bolt by moving operating slide forward.

c. Replace trigger housing group:

(1) Cock hammer.

(2) Replace disconnect spring and plunger assembly.

(3) Place barrel and receiver on the palm of the left hand and vertically center operating slide handle.

(4) Engage the "T" lug of the trigger housing group with the corresponding slot on the receiver (from front to rear).

(5) Press trigger housing to receiver until it clicks.

(6) Align the trigger housing and selector pin holes.

(7) Insert trigger housing and selector pin through its holes from right to left.

d. Replace disconnecter assembly (slotted groove):

(1) Press in on rear of the disconnecter lever and align the rear end of the lever with the slot of the disconnecter.

(2) Pull front end of the disconnecter lever away from operating slide.

(3) Rotate disconnecter lever to the rear, engaging its rear end in the disconnecter groove.

e. Place barrel and receiver on level surface with muzzle left and sights down.

f. Engage slotted portion of selector with straddle slot on end of trigger housing and selector pin.

g. Rotate selector to the rear.

h. Replace selector spring:

(1) With barrel and receiver positioned as in "e" above, insert straight end of selector spring into recess in the rear of selector (loop of selector spring must point toward trigger guard).

(2) Place loop end of spring in dismount notch at top of groove on trigger housing post.

(3) Using operating slide spring guide, pull loop end up, seating selector spring (left thumb and forefinger are used to help).

(4) Check assembly by moving selector back and forth several times.

i. Replace operating spring and guide:

(1) With barrel and receiver positioned as in "e" above, assemble operating slide spring and guide.

(2) Insert loose end of operating slide spring into well in receiver.

(3) With operating slide forward, use left hand to hold barrel and heavy portion of the operating slide.

(4) Place thumb and forefinger of right hand on shoulder of operating slide spring guide and compress operating

slide spring, seating the operating slide spring guide in its recess.

j. Replace barrel and receiver group into stock group: (See fig. 3)

(1) With barrel at a 15° angle to stock group, lower rear end of barrel and receiver group into stock group. (You must insert retaining lug on rear of receiver into forward face of recoil plate.)

NOTE: Barrel will normally not seat completely in stock.

(2) Seat barrel into stock:

(a) Hold barrel and stock at an angle of approximately 60° to ground and strike toe of butt against ground. (This action permits recoil plate to spring over retaining lug, preventing damage to parts.)

(b) Fit barrel into stock groove without applying excess pressure.

k. Replace wooden handguard:

(1) Place weapon on level surface, muzzle left, and sights up.

(2) Insert rear of handguard into receiver groove.

(3) Lock stock group, barrel, receiver group, and handguard together by sliding front band down over forward ends of handguard and stock (front band must pass over front band locking spring).

(4) Tighten front band screw, locking front band into position.

l. Replace oiler in stock recess.

m. Replace the sling:

(1) Attach forward end of sling to upper sling swivel.

(2) Thread rear end of sling through its aperture in stock, around oiler, back through aperture, and through adjusting buckle.

5. Maintain Magazine. (Follow procedures and use materials prescribed for the G3A4 rifle, task number 331-915-0074.)

6. Maintain Ammunition. (Follow procedures prescribed and use materials prescribed for the caliber .45 pistol, task number 191-375-0105, FM 7-11B1/2.)

7. Perform Function Check Within 20 Seconds. (See fig. 2) (Follow procedures prescribed for the M16A1 rifle, task number 071-311-2001, FM 7-11B1/2.)

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0079

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE,
UNLOAD, AND CLEAR A SOVIET SKS RIFLE

CONDITIONS:

You will be given an SKS, nine rounds of 7.62 x 45mm M1943 Soviet ammunition, an inert round, a stripper clip, and a combination tool kit.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.

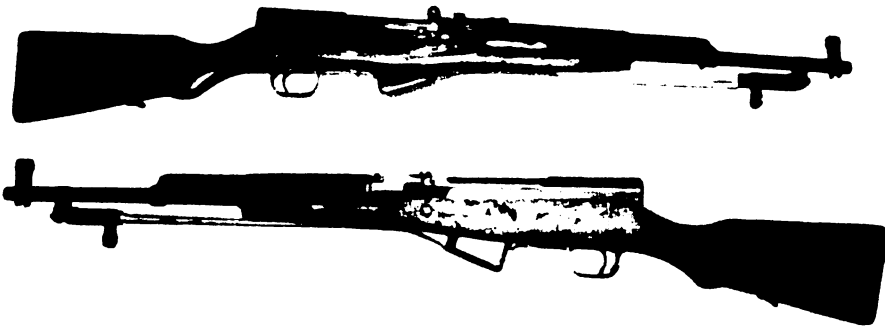


Figure 1

a. Adjust:

- (1) Adjust rear sight: (See fig. 2)

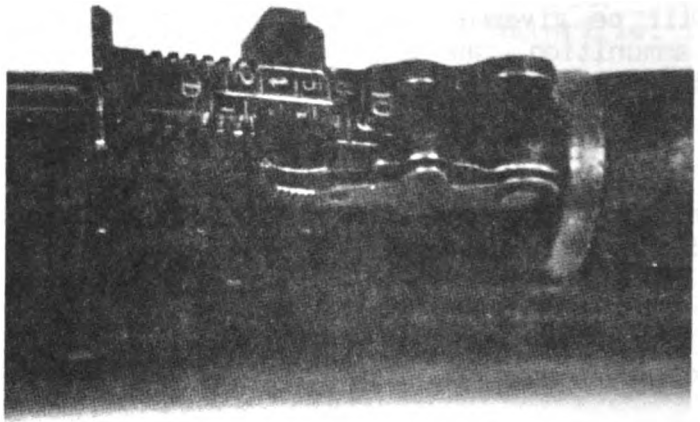


Figure 2

- (a) Depress slide catch.

(b) Slide sight bar along the leaf until front edge of bar aligns with line below the number that corresponds to specified range in hundreds of meters. (The first character on the sight leaf is a battle sight setting that is used in combat, for shooting at ranges up to 300 meters; further adjustments can be made up to 460 meters.)

- (2) Adjust front sight: (See fig. 3)

(a) Insert screwdriver blade (from combination tool) in locking screw slot near muzzle end of front sight case.

(b) Loosen front sight post by slightly unscrewing locking screw.

(c) Slip combination wrench over the front sight post.



Figure 3

(d) Turn post clockwise to raise strike of bullet; turn counterclockwise to lower strike of bullet.

(e) Remove combination wrench and tighten locking screw.

b. Load within 10 seconds:

(1) Pull operating handle back and release it. (If the magazine is empty, the bolt will remain open.)

(2) Insert a stripper clip into the clip guides at the top front of the bolt carrier.

(3) Press cartridges off the clip and into the magazine (thumb should be as close to the base of the top cartridge as possible).

(4) Remove empty clip.

NOTE: If clipped ammunition is not available, individual cartridges can be placed on top of the magazine follower and pressed down into the magazine until it is full.

(5) Pull operating handle back and release it. (Bolt will run forward and chamber a cartridge.)

(6) Put weapon on safe by rotating it forward until it is straight up and down.

c. Fire within 5 seconds:

(1) Rotate safety to rear until it is parallel to the trigger (fire position).

(2) Aim and fire. (Bolt remains closed between rounds and open after last round has been fired.)

2. Take Immediate Action Within 5 Seconds To Reduce a Stoppage. (Follow procedures prescribed for the M1, task number 331-915-0084.)

3. Unload and Clear Weapon Within 10 Seconds.

a. Unload:

(1) Place weapon on "SAFE."

(2) Pull back magazine catch and allow magazine to swing open.

(3) Remove all cartridges.

(4) Close the magazine.

(5) Pull operating handle to the rear to eject cartridges.

(6) Release the handle (bolt will remain open).

b. Clear:

(1) Inspect to insure no cartridges remain in the magazine, barrel, or receiver.

(2) Close bolt:

(a) Open magazine again and pull to the rear on the operating handle and release it, or

(b) Press magazine platform down slightly and pull the operating handle to the rear and release it.

(3) Move safety to "FIRE" position.

(4) Press trigger.

(5) Place weapon on "SAFE."

REFERENCE:

TEC Lesson 011-331-0079, Operate a Soviet SKS Rifle

331-915-0080

MAINTAIN A SOVIET SKS RIFLE AND AMMUNITION

CONDITIONS:

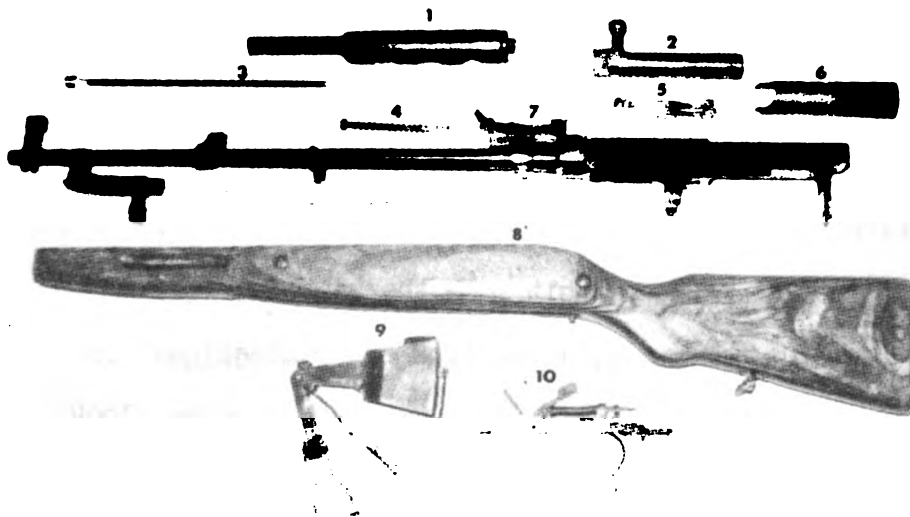
You will be given an SKS; a cleaning rod and combination tool kit; 10 rounds of 7.62 x 45mm M1943 Soviet ammunition; a wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts (See figs. 1 and 2)
2. Disassemble Weapon Within 3 Minutes. (See fig. 1)



RIFLE SKS SOVIET

- | | |
|----------------------------------|----------------------|
| 1. Gas Cylinder | 6. Receiver Cover |
| 2. Bolt Carrier | 7. Barrel & Receiver |
| 3. Gas Piston | 8. Stock |
| 4. Gas Piston Extension & Spring | 9. Magazine |
| 5. Bolt | 10. Trigger Group |

Figure 1

- a. Clear weapon within 10 seconds.
- b. Turn the safety down, to "SAFE" position.
- c. Remove cleaning tools:
 - (1) Press in on cover in butt plate and remove combination tool case.
 - (2) Unlock bayonet and let it hang.
 - (3) Disengage the head of the cleaning rod from the front sight base.
 - (4) Pull the cleaning rod out of the rifle.
- d. Remove driving spring assembly:
 - (1) Turn the receiver cover retaining pin to the vertical position and pull to the right.
 - (2) Remove the receiver cover by sliding it rearward.
 - (3) Pull the driving spring assembly from the bolt carrier.
- e. Remove bolt and carrier:
 - (1) Open the magazine by pulling the magazine catch to the rear.
 - (2) Pull operating handle to the rear.
 - (3) Lift the bolt and bolt carrier out of the receiver.
- f. Separate the bolt from the bolt carrier.
- g. Remove gas cylinder tube and piston:
 - (1) Rotate the gas cylinder tube lock to its uppermost position.
 - (2) Lift the rear of the handguard to remove the gas cylinder tube and gas piston.
 - (3) Turn the tube upside down and the piston will slide out.
- h. Remove trigger group:

- (1) Insure weapon is on "SAFE."
- (2) Push in on the trigger group retaining lock.
- (3) Pull trigger group down and out.

i. Remove magazine.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 7 Minutes.

a. Replace magazine into stock leaving it open.

b. Replace trigger group:

(1) Invert the rifle and engage pins at the front of the trigger group (notches must be behind the magazine box).

(2) Swing trigger group into position in the stock (seat it by a hand blow on the loop of the trigger guard).

(3) Move safety to "FIRE" position to insure catch is fully engaged.

c. Replace gas cylinder tube and piston:

(1) Slide gas piston, small end first, into gas cylinder tube.

(2) Fit large end of tube over gas cylinder.

(3) Swing rear end of gas cylinder tube into rear sight base.

(4) Turn gas cylinder lock down.

d. Replace bolt and carrier:

(1) Place the bolt into the receiver, extractor to right front, and about three-eighths of an inch from the inner rear wall of the receiver.

(2) Lay bolt carrier on bolt and press down to seat.

(3) Slide bolt and bolt carrier forward into receiver.

e. Replace driving spring assembly:

(1) Insert driving spring assembly, stepped end first, into bolt carrier.

(2) Pull receiver cover pin fully to the right.

(3) Slide receiver cover into place from the rear.

(4) Secure cover with receiver cover pin.

(5) Rotate pin down to locked position.

f. Close magazine.

g. Replace cleaning tools:

(1) Replace cleaning rod.

(2) Swing bayonet up and lock.

(3) Replace combination tool case in rifle butt.

5. Maintain Ammunition. (Follow procedures prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Perform Function Check Within 20 Seconds.

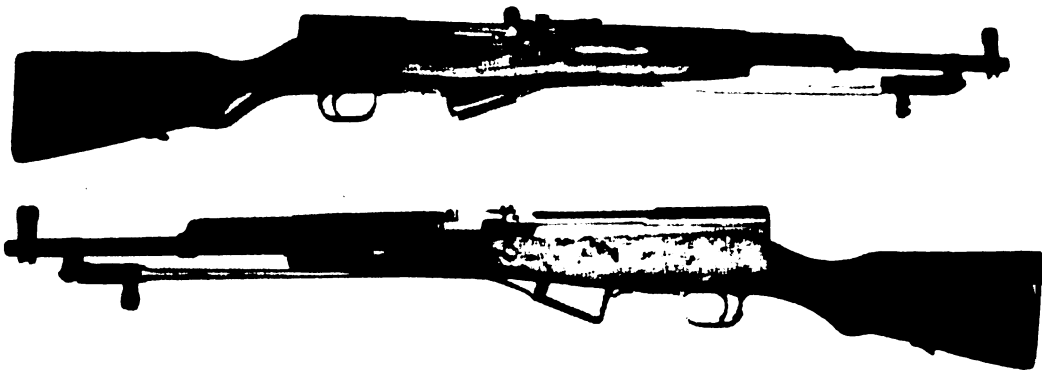


Figure 2

- a. Pull operating handle to the rear and hold it.
- b. Press down on magazine follower.
- c. Allow bolt to go forward.
- d. Place safety lever on "SAFE."
- e. Press trigger (hammer should not go forward).
- f. Place safety lever on "FIRE."
- g. Press trigger (hammer should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0081

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD,
AND CLEAR A SOVIET SVD RIFLE

CONDITIONS:

You will be given an SVD and a magazine containing 49 rounds of 7.62 x 54R ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.

a. Adjust:

(1) Adjust rear sight:

(a) Press in on slide locks.

(b) Move slide along the rear sight leaf until its front edge aligns with specified range in hundreds of meters (100-460 meters).

(2) Adjust PSO-1 telescopic sight:

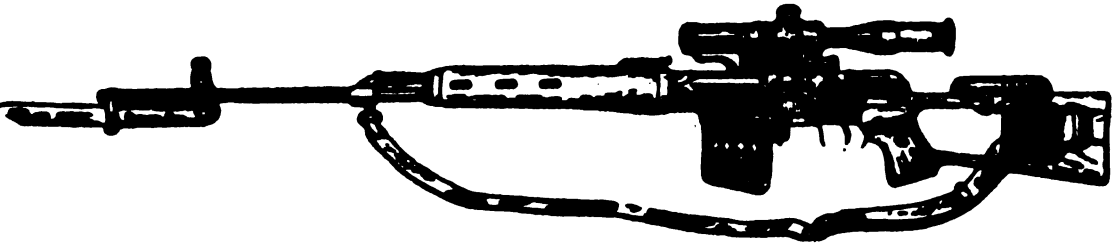


Figure 1

(a) Rotate the elevation knob until the number that corresponds to the desired range (in hundreds of meters) aligns with the index mark.

(b) Look through the telescope and place the horizontal rangefinder line at the bottom of the target (rangefinder is graduated for 5'7" person).

(c) Move telescope sideways until the upper (curved) line just touches the top of the target's head. (This number indicates the range in hundreds of meters; if the target falls between numbers, estimate the difference.)

(d) Determine range and set into elevation knob.

NOTE: The point of the top chevron on the reticle is the aiming point. The three lower chevrons are used for firing at 1,100, 1,200, and 1,300 meters when the elevation knob is set at 10. The horizontal scale extending out from the sides of the top chevron is used for hasty wind corrections; deliberate changes are made by rotating the windage knob.

(e) When sighting under dimly lit conditions, illuminate the reticle by turning the switch on the PSO-1 mount.

(f) Locate active infrared light sources:

- 1 Set range drum to No. 4.
- 2 Switch infrared detector into place.
- 3 Scan area to front (active infrared sources will appear as orange-red spots in the scope).
- 4 Align the aiming point (top point) on the spot and fire.

b. Load within 10 seconds:

(1) Insert loaded magazine into magazine well so that the top front edge engages.

(2) Rock magazine rearward until magazine catch snaps into place.

(3) Pull operating handle fully rearward and release it.

(4) Press safety up to "SAFE."

CAUTION: The rifle is now loaded and ready to fire.

c. Fire within 5 seconds:

(1) Press safety down to "FIRE."

(2) Aim and fire (bolt remains closed between shots and open after the last round is fired).

2. Take Immediate Action Within 5 Seconds To Reduce a Stoppage. (Follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.)

3. If Sluggish Gun Conditions Occur, Proceed as Follows:

a. Slip rim of cartridge case into the lugs on the side of regulator.

b. Rotate regulator to "2."

c. Clean and lubricate weapon as soon as possible, and set regulator back to "1."

4. Unload and Clear Weapon Within 10 Seconds.

a. Unload:

(1) Remove magazine.

(2) Pull operating handle to the rear.

b. Clear:

(1) Inspect to insure no cartridges are present.

(2) Release operating handle.

(3) Press trigger.

(4) Move safety up to "SAFE."

REFERENCE:

None

331-915-0082

MAINTAIN A SOVIET SVD RIFLE, MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given an SVD; 10 rounds of 7.62 x 54R ammunition; a magazine, cleaning rod, wire bore brush, chamber brush, and toothbrush; and rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts.
2. Disassemble Weapon Within 4 Minutes.

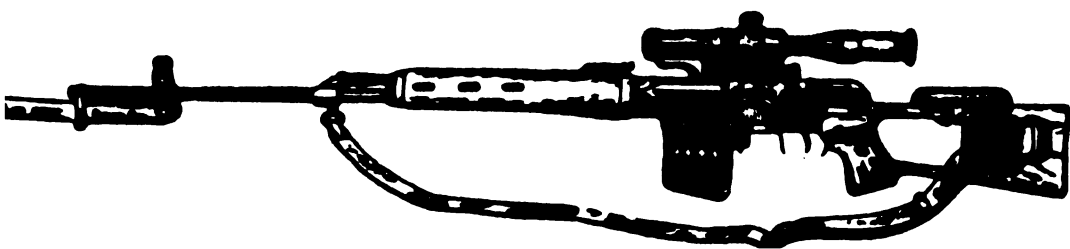


Figure 1

- a. Clear weapon within 10 seconds: Do not set the safety to "SAFE" or replace the magazine.
- b. Release telescopic sight catch and pull the telescope off.
- c. Remove cheek pad.
- d. Remove driving spring:
 - (1) Press receiver cover catch upward.
 - (2) Pull receiver cover and driving spring up and off the receiver.
- e. Remove and separate bolt from carrier:
 - (1) Pull operating handle to rear.
 - (2) Lift bolt carrier and bolt out of the rifle.
 - (3) Push bolt into the bolt carrier until it can be rotated so operating lug on the bolt is free of its cam recess in the bolt carrier.
 - (4) Pull the bolt out of the carrier.
- f. Remove safety and trigger group:
 - (1) Rotate the safety until it is vertical.
 - (2) Pull safety to the right out of the receiver.
 - (3) Remove trigger group from the receiver.
- g. Remove handguards:
 - (1) Press handguard catch to free it from handguard ferrule.
 - (2) Rotate catch to the right.
 - (3) Push ferrule forward.
 - (4) Pull handguards down and out to remove them. (It may be necessary to pry tight handguards off the barrel.)
- h. Remove operating rod and spring:
 - (1) Pull operating rod to the rear against pressure

of the spring.

(2) Move the front of the rod to one side.

(3) Pull piston off the gas block.

(4) Ease operating rod forward to remove it and the spring.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 6 Minutes.

a. Replace operating rod and spring:

(1) Insert operating rod and its spring in its recess in the rear sight base.

(2) Press the rod to one side.

(3) Slip the piston onto the gas block.

(4) Insert the operating rod into the piston.

b. Replace handguards:

(1) Slip the rear end of the handguards into their seats.

(2) Swing the front ends together.

(3) Push the ferrule to the rear to hold the handguards in place.

(4) Rotate the ferrule until the handguard catch snaps into place.

c. Replace trigger group and safety:

(1) Insert trigger group into its recess in receiver.

(2) Align trigger and receiver.

(3) Insert safety shaft into receiver hole.

(4) Turn safety arm to vertical position.

(5) Seat safety into receiver.

- (6) Turn safety down to its position.
 - d. Replace bolt and bolt carrier:
 - (1) Insert bolt spindle into bolt carrier until operating lug on the bolt can be turned into cam groove in bolt carrier.
 - (2) Pull bolt forward in the carrier.
 - (3) Align bolt carrier lugs with receiver cutaways.
 - (4) Insert bolt carrier and bolt into the receiver.
 - (5) Move bolt and carrier forward.
 - e. Replace driving spring:
 - (1) Insert driving spring into the bolt carrier.
 - (2) Hold receiver cover catch up.
 - (3) Slide receiver cover onto receiver.
 - f. Replace cheek pad.
 - g. Hold telescopic sight catch and slide the sight onto its seat from the rear.
 - h. Press trigger.
 - i. Move safety up to "SAFE."
5. Maintain Magazine. (Follow procedures and use materials prescribed for the G3A4 rifle, task number 331-915-0074.)
6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)
7. Perform Function Check Within 20 Seconds.
- a. Pull operating handle to the rear and release it.
 - b. Move safety upward to "SAFE."
 - c. Press trigger (hammer should not go forward).
 - d. Move safety down to "FIRE."

- e. Press trigger (hammer should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

071-311-2017

PERFORM A DETAILED DISASSEMBLY AND REASSEMBLY
OF AN AMERICAN M16A1 RIFLE

CONDITIONS:

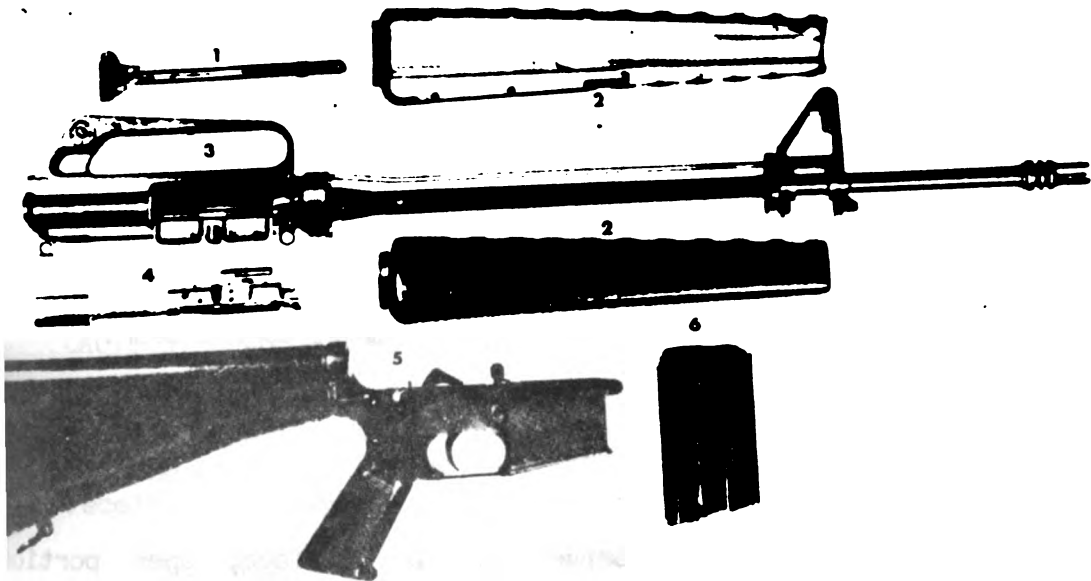
You will be given an M16A1.

STANDARDS:

Within 20 minutes, field strip, perform a detailed disassembly and reassemble.

PERFORMANCE:

1. Field Strip Weapon. (Follow procedures prescribed in task number 071-311-2001, FM 7-11B1/2.)
2. Identify Weapon Parts. (See figs. 1 and 2)



Rifle M16 USA

- | | |
|--------------------|-------------------|
| 1. Charging Handle | 4. Bolt Carrier |
| 2. Hand Guard | 5. Lower Receiver |
| 3. Upper Receiver | 6. Magazine |

Figure 1



M16

RIFLE M16 USA

- | | |
|--------------------|---------------------|
| 1. Hammer & Spring | 6. Trigger Pin |
| 2. Hammer Pin | 7. Disconnecter |
| 3. Sear & Spring | 8. Trigger & Spring |
| 4. Sear Pin | 9. Lower Receiver |
| 5. Selector | |

Figure 2

3. Disassemble Firing Mechanism.

a. Insure selector is set on "AUTOMATIC" fire and hammer is forward.

CAUTION: Removing the sear with the selector in any position other than "AUTO" can cause damage to the sear.

b. Use firing pin as a tool and push out sear pin from right to left.

c. Reach in and remove sear and spring.

d. Place lower receiver on flat surface, open portion facing up.

e. With the forefinger of one hand, apply pressure downward on the hammer (relieves spring tension).

f. With the other hand, push out the hammer pin from right to left, using the firing pin.

g. Reach in and remove the hammer and spring. (Do not

separate hammer and spring.)

h. Rotate selector lever halfway between semiautomatic and automatic fire.

i. Push the selector lever from right to left using the firing pin.

j. Remove the selector lever.

k. Place lower receiver on flat surface, open portion facing up.

l. With the forefinger of one hand, apply pressure down on disconnector.

m. With the other hand, using the firing pin, push out the trigger pin from right to left.

n. Reach in and remove disconnector.

o. Reach in and remove trigger mechanism.

CAUTION: Disconnector spring may become dislodged. Do not separate trigger, trigger spring, or disconnector spring.

4. Reassemble Firing Mechanism.

a. Place the lower receiver on a flat surface, open portion facing up.

CAUTION: Check to see if disconnector spring has been dislodged.

b. Replace the trigger assembly. (Insure that the points of the trigger spring are pointing to the front of the receiver.)

c. Replace the disconnector insuring that the cutaway portion fits over the disconnector spring.

d. Apply downward pressure on top of disconnector to align the holes in the disconnector and trigger with the holes in the receiver.

e. Replace the trigger pin from right to left.

f. Insert selector lever into its hole at the rear of receiver.

g. Insure selector lever indicator point is halfway between "SEMI" and "AUTO" fire.

h. Press selector lever into place until it stops.

i. With the tip of the firing pin, press in on selector lever detent located in the selector lever hole on the right side of the receiver.

j. With the other hand, press in on selector lever from the left side until it locks into place.

k. Place selector lever to "AUTOMATIC" fire.

l. Insure tips of hammer spring are pointing to rear of receiver.

m. Insert hammer into receiver insuring the tips of the hammer spring ride over the legs of the trigger spring.

n. Apply downward and rearward pressure on the top of hammer to align the hole in hammer with the holes in the receiver.

o. Replace the hammer pin from right to left.

p. Insure that the long end of sear spring rests in front of the sear leg.

q. Hold sear and spring just above their recesses on the selector lever.

r. Gently push down to wedge sear and spring into their recesses.

NOTE: Sear spring should ride forward in its recess and the sear leg should rest in the cutaway slot of the selector lever.

s. Maintain pressure on top of sear and align the hole of the sear with the holes in the receiver.

t. Replace the sear pin from right to left.

u. Place selector lever on "AUTO" and cock the hammer.

5. Reassemble Weapon. (Follow procedures prescribed in task number 071-311-2001, FM 7-11B1/2.)

REFERENCES:

FM 23-9, M16A1 Rifle and Rifle Marksmanship (chap 1, sec II, pages 7-15), C1, 14 June 74
FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0084

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE,
UNLOAD, AND CLEAR AN AMERICAN M1 RIFLE

CONDITIONS:

You will be given an M1 and one clip containing seven rounds of caliber .30 ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.

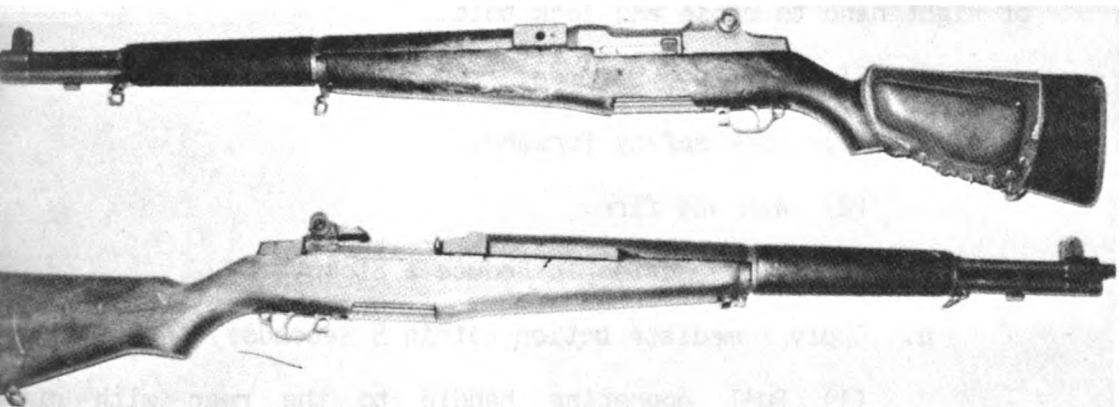


Figure 1

a. Adjust rear sight:

(1) Turn elevation knob (right side) clockwise to raise the sight, counterclockwise to lower. (When setting for battle sight zero, start at 12 clicks. One click will raise or lower strike of bullet 1 inch per 100 meters of range.)

(2) Turn windage knob (left side) clockwise or counterclockwise to move sight left or right. (When setting for battle sight zero, start at zero. One click will move strike of bullet right or left 1 inch per 100 meters of range.)

b. Load within 10 seconds:

(1) Place on "SAFE" by pushing safety lever into trigger guard. Hold rifle with left hand and pull operating rod handle to the rear.

(2) Place rifle butt against your thigh or on ground.

(3) With right hand, place full clip on top of follower assembly.

(4) Place thumb (pointing left) on center of top round in clip and press clip straight down into the receiver until it catches.

(5) Swing thumb up and away from top of clip.

(6) Strike forward on operating rod handle with heel of right hand to close and lock bolt.

c. Fire within 5 seconds:

(1) Push safety forward.

(2) Aim and fire.

2. Take Immediate Action To Reduce a Stoppage.

a. Apply immediate action within 5 seconds:

(1) Pull operating handle to the rear with right hand, palm up, and release it.

(2) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.

3. Unload and Clear Weapon Within 10 Seconds.

a. Unload:

- (1) Press safety back to "SAFE."
- (2) Support rifle butt on thigh on ground.
- (3) Pull operating rod slowly to the rear with right hand and catch the round being ejected with the left hand.
- (4) Hold operating rod to the rear.
- (5) Again place the palm of the left hand over the receiver and depress the clip latch with the left thumb. This allows the clip to be ejected into the hand.

NOTE: Do not relax the pressure on the operating rod handle until after the clip has been removed.
--

b. Clear:

- (1) With bolt locked to the rear, inspect chamber and receiver for rounds.
- (2) Insure safety is rear to "SAFE."

REFERENCE:

None

331-915-0085

 MAINTAIN AN AMERICAN M1 RIFLE AND AMMUNITION

CONDITIONS:

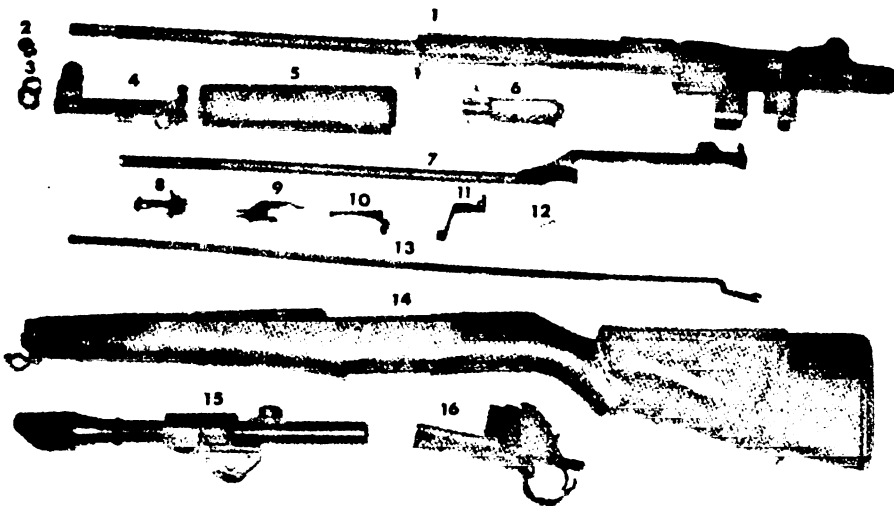
You will be given an M1; five rounds of caliber .30 ammunition; a cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 50 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2)
2. Disassemble Weaon Within 4 Minutes.



- | | |
|----------------------|-----------------------------|
| 1. Barrel & Receiver | 9. Operating Catch Assembly |
| 2. Gas Cylinder Plug | 10. Follower Arm |
| 3. Gas Cylinder Lock | 11. Bullet Guide |
| 4. Gas Cylinder | 12. Following Arm Pin |
| 5. Upper Handguard | 13. Following Rod Spring |
| 6. Bolt | 14. Stock |
| 7. Operating Rod | 15. M89 Telescope |
| 8. Follower Assembly | 16. Trigger Group |

Figure 1

3-363

- a. Clear weapon within 10 seconds.
- b. Remove trigger housing group:

- (1) Lay weapon on flat surface with sights down and muzzle to the left, insuring that the rear sight is at its lowest position.

- (2) Grasp rear of trigger guard with thumb and forefinger of right hand and pull it down and out until it swings open.

- (3) Lift out trigger housing group.

- c. Separate barrel and receiver from stock:

- (1) Hold muzzle end of weapon down.

- (2) Strike up on small of stock, separating stock from barrel and receiver.

- d. Disassemble barrel and receiver group:

- (1) Remove follower rod and operating rod spring.

- (a) Hold rear of receiver with one hand.

- (b) Disengage follower rod from follower arm by moving it toward muzzle.

- (c) Remove follower rod and operating rod spring by withdrawing to the right.

NOTE: Do not separate these parts.

- (2) Push out follower arm pin using a cleaning rod or inert round. (Push the end without the pinhead.)

- (3) Lift the bullet guide, follower arm, and operating rod catch assembly out of the receiver together.

- (4) Separate and arrange these parts from left to right in the following order:

- (a) Follower arm.

- (b) Operating rod assembly.

- (c) Bullet guide.

(5) Lift follower assembly out of receiver.

(6) Remove operating rod:

(a) Turn the barrel and receiver group so that sights are up, muzzle pointing away.

(b) Raise rear of receiver group.

(c) Pull operating rod until rear of handle is directly under forward edge of windage knob.

(d) Pressing up and out, disengage guide lug of operating rod from its dismount notch on receiver.

(e) Remove operating rod.

(7) Slide bolt operating lug to the rear, then forward, and remove by lifting it up and out to right front.

(8) Unscrew and remove gas cylinder lock screw using screwdriver blade of cleaning rod handle.

(9) Unscrew and remove gas cylinder lock.

(10) Loosen gas cylinder by tapping lightly toward the muzzle on the bayonet stud with a piece of wood.

(11) Remove gas cylinder.

(12) Remove front handguard by sliding it over the muzzle.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

5. Reassemble Weapon Within 6 Minutes.

a. Assemble barrel and receiver group:

(1) Replace front handguard by sliding it over the muzzle, insuring it is seated in the front band.

(2) Place gas cylinder over barrel making sure the splines are aligned with their grooves.

(3) Push gas cylinder down as far as it will go (tap on bayonet stud if necessary).

(4) Screw gas cylinder lock on until handtight.

(5) Align gas cylinder lock with gas cylinder.

(6) Screw in gas cylinder lock screw with cleaning rod.

(7) Replace bolt:

(a) Hold bolt by operating lug and place rear end of bolt onto bridge of receiver.

(b) Rotate bolt counterclockwise until fang of firing pin clears top of bridge.

(c) Guide left bolt locking lug into its groove on left side of receiver.

(d) Lower right locking lug on its bearing surface.

(e) Slide bolt halfway to rear.

(8) Replace operating rod:

(a) Hold operating rod handle and place piston end into gas cylinder.

(b) Align operating rod so recess in hump fits over bolt operating lug.

(c) Push down and in on handle while pulling operating rod back until guide lug engages its groove.

(d) Move operating rod forward until bolt is closed.

(9) Replace follower assembly:

(a) Turn barrel and receiver group so that sights are down and muzzle points left.

(b) Replace follower assembly so its guide ribs fit into their receiver grooves. (Slide of follower must be down, with square hole in the rear so that slide rests against bolt.)

(10) Replace bullet guide so its shoulders fit into their receiver slots and the hole in toe of bullet guide is aligned with receiver holes.

(11) Replace operating rod catch assembly:

(a) Slightly lift lower part of bullet guide.

(b) Insert rear arm of operating rod catch assembly through clearance cut in side of bullet guide. (Rear arm must be under front stud of clip latch which projects into receiver.)

(c) Lower bullet guide into place.

(d) Test for correct assembly by pressing down on front arms of operating rod catch assembly. (It should move, and clip latch spring tension should be felt.)

(12) Replace follower arm:

(a) Press follower arm rear studs through bullet guide and insert them into guide grooves on follower.

(b) Allow wings of follower arm to rest astride bullet guide toe.

(c) Align holes in operating rod catch assembly, follower arm, and bullet guide with those in receiver.

(d) Replace follower arm pin.

(13) Replace operating rod spring and guide:

(a) Insert operating rod spring into operating rod.

(b) Hold follower rod with left hand so that its hump is toward barrel.

(c) Pull toward muzzle to compress operating rod spring and engage follower rod claws with front studs of follower arm (may need to raise follower assembly).

(d) Insure follower rod hump fits down between front arms of operating rod catch.

(14) Replace barrel and receiver in stock:

(a) Pick up stock group and engage U-shaped

flange of the stock ferrule in lower band.

(b) Lower the stock group down onto barrel and receiver group.

(15) Replace trigger housing group:

(a) Unlatch and open trigger guard.

(b) Keep base of trigger housing group level and place it straight down into receiver. (Insure trigger guard locking lugs enter recesses in receiver.)

(c) Close and latch trigger guard. (Hold rifle, butt resting down, to avoid damage to sights.)

6. Perform Function Check Within 20 Seconds.

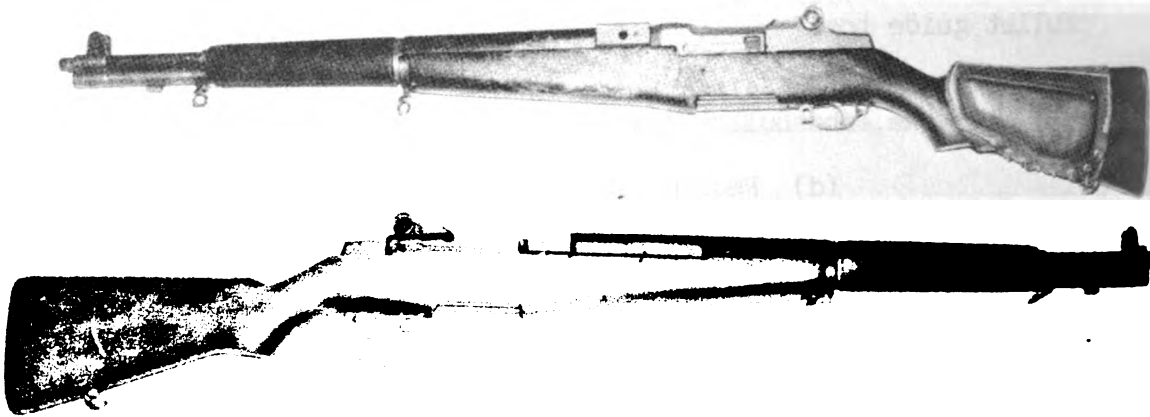


Figure 2

- a. Pull operating handle back (bolt should stay open).
- b. Close bolt.

- c. Press safety on "SAFE."
- d. Depress trigger (hammer should not go forward).
- e. Place safety on "FIRE."
- f. Depress trigger (hammer should go forward).

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

071-311-4001

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR AN AMERICAN M14 RIFLE

CONDITIONS:

You will be given an M14; a scope; and a magazine containing 18 rounds of 7.62 NATO ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust Weapon.
 - a. Adjust rear sight: (See fig. 1)

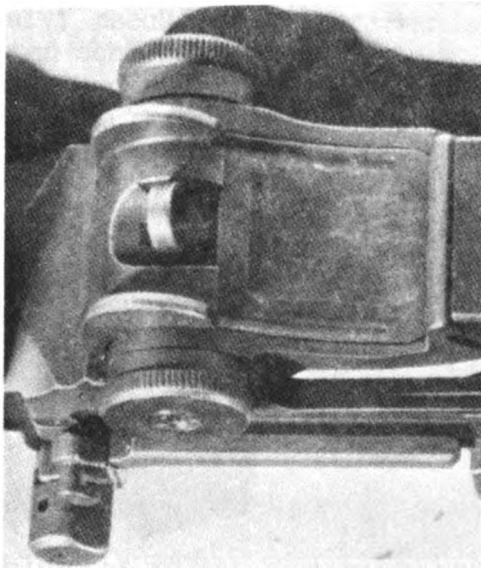


Figure 1

(1) Turn elevation knob (right side) clockwise to the specified number of clicks. The elevation knob is adjustable from zero to 72 clicks.

(2) Set windage knob (left side) at zero by turning counterclockwise or clockwise as needed. Windage knob can be adjusted from zero to 16 clicks right or left of the center index line of the sight.

NOTE: Start by setting the sights at 12 clicks elevation, zero windage.

SPECIAL NOTE:

The M21 rifle is a 7.62mm, M14 NATIONAL MATCH RIFLE without the selector lever welded. This rifle is specially modified, extremely accurate weapon, developed to satisfy requirements for a sniper rifle in caliber 7.62mm NATO.

This rifle is equipped with an epoxy impregnated stock with components selected and hand-fitted to achieve a high degree of accuracy. This rifle is a slightly modified M14 and is operated the same way; however, it is NOT to be disassembled by the operator.

b. Mount telescope on sniper rifle within 30 seconds.

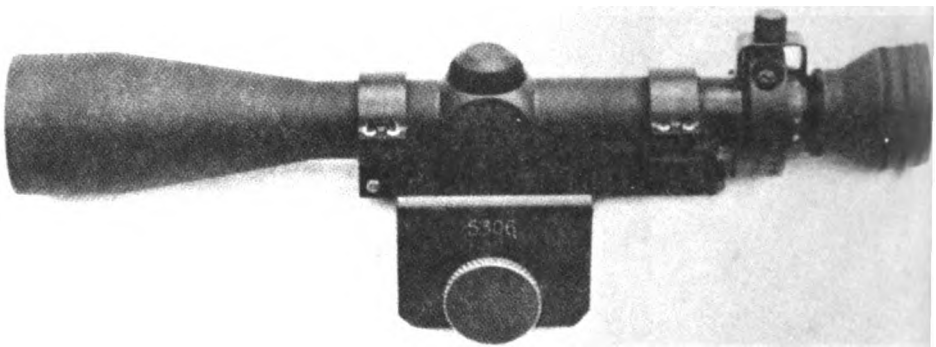


Figure 2

(1) Premount check:

(a) Inspect mount to insure scope is held firmly by scope mounting rings.

(b) Be sure the side mounting plate and spring-loaded base are correctly assembled and held securely with the hex-head capscrew and lockwasher.

(c) Be sure the mounting screw is held in the side mounting plate by the lock "E" ring and the lockwasher is in position.

(d) Check mounting ridges on side mounting plate for burrs and nicks that may prevent tight mounting to the receiver.

(e) Be sure the mating surfaces between the telescope mount and the receiver are clean.

(2) Place the rifle on a flat surface with left side of receiver up.

(3) Match sideplate and receiver.

(4) Tighten the mounting screw by hand. Mount must be seated securely; check this by attempting to move the mount by hand. Retighten screw.

CAUTION: Do not use a wrench or pliers to tighten the mounting screw or attempt to mount the scope without the lockwasher in position. Without the lockwasher, the mounting screw could protrude into the receiver and interfere with the bolt operation.

c. Focus telescope within 30 seconds.

(1) Loosen the range power lock.

(2) Turn the range power control clockwise to "9."

(3) Loosen the focus lock to free the eyepiece.

(4) Point the telescope toward a bright background.

(5) Turn eyepiece clockwise until the reticle is out of focus.

(6) Turn eyepiece counterclockwise until the reticle appears sharp and clear.

(7) Lock eyepiece in place by turning the focus lock counterclockwise.

NOTE: Do not change eyepiece position.

d. Sight telescope within 30 seconds:

(1) Be sure the mount is firmly attached to the rifle.

(2) Unlock the range power lock by turning the knurled screw counterclockwise until lock is loose.

(3) Set the range power control to "INDICATE."

(4) Lock range power lock by tightening by hand.

NOTE: Sighting must be done at 300 meters, with the telescope set on 3 power for the ranging features to work properly.

(5) Remove the internal adjustment covers. This exposes the adjustment screws.

(6) Adjust screws with fingers.

(a) Top turret for elevation.

(b) Side turret for windage.

NOTE: Each graduation on adjusting screw changes the point of impact one-half an inch at 100 yards or a little over 1 1/2 inches at 300 meters.

CAUTION: Do not move adjustments beyond the point where they produce reticle movement, as the mechanism may become disengaged and require repair.

(7) Fire several rounds to seat the mounting interfaces.

(8) Retighten the mounting screw and continue sighting operation.

(9) Replace internal adjustment covers and tighten.

e. Remove telescope within 30 seconds:

(1) Place the rifle on a flat surface with left side of receiver up.

(2) Loosen the mounting screw counterclockwise.

2. Load and fire weapon:

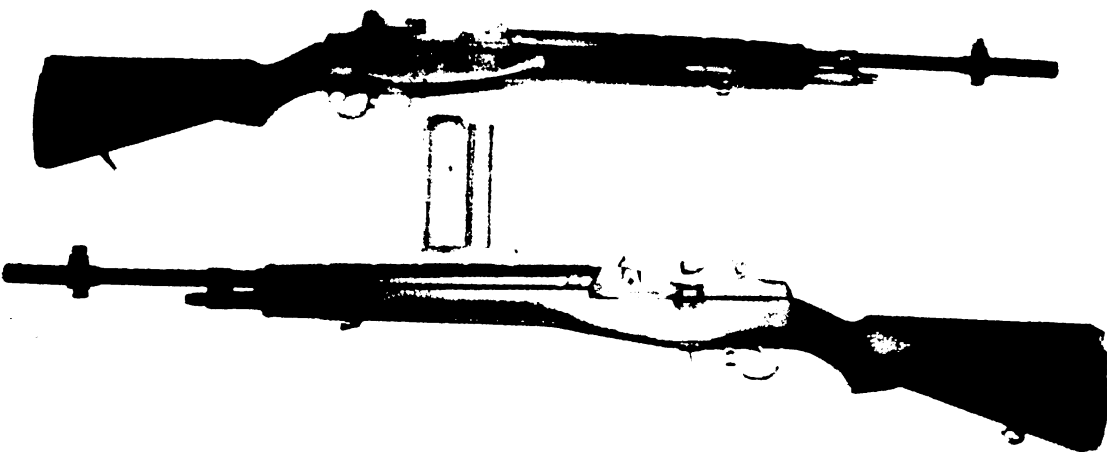


Figure 3

a. Load within 10 seconds:

(1) Place safety in "SAFE" position (back).

(2) Insert magazine into magazine well, top front first, until operating rod spring guide engages magazine.

(3) Pull magazine backward and upward until it snaps into position.

(4) Pull operating handle backward; release it.

b. Fire within 5 seconds:

(1) Place safety forward in "FIRE" position.

(2) Aim and fire.

3. Take immediate action to reduce a stoppage:
 - a. Apply immediate action within 5 seconds:
 - (1) With right hand, palm up, pull operating handle to rear.
 - (2) Release operating rod handle.
 - (3) Aim and attempt to fire.
 - b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.
4. Unload and clear weapon within 10 seconds:
 - a. Remove magazine.
 - b. Pull operating rod handle to rear.
 - c. Press bolt lock.
 - d. Visually inspect chamber for any rounds, live or expended.
 - e. Release the operating handle.
 - f. Place safety on "SAFE."

REFERENCES:

FM 23-8, M14 and M14A1 Rifles and Rifle Marksmanship (chap 2, sec II, III, and IV, pages 8-39; chap 4, sec II and III, pages 92-94)
FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

071-311-4000

 MAINTAIN AN AMERICAN RIFLE M14, MAGAZINE, AND AMMUNITION

CONDITIONS:

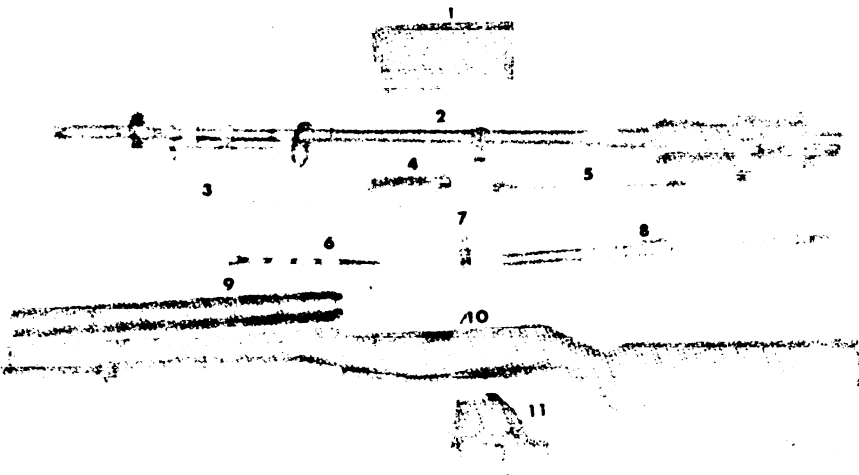
You will be given an M14; five rounds of 7.62mm NATO ammunition; a magazine, combination tool, cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, raw linseed oil, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 50 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2)
2. Disassemble Weapon Within 4 Minutes. (See fig. 1)



- | | |
|-------------------------------|----------------------|
| 1. Magazine | 7. Gas Plug |
| 2. Barrel & Receiver | 8. Operating Rod |
| 3. Operating Rod Spring | 9. Handguard |
| 4. Bolt | 10. Stock |
| 5. Connector Assemble | 11. Firing Mechanism |
| 6. Operating Rod Spring Guide | |

Figure 1

a. Clear weapon within 10 seconds (operating parts should be forward for disassembly).

b. Remove firing mechanism:

(1) Lay weapon on flat surface with sights down and muzzle to the left, insuring that the aperture is at its lowest position.

(2) Grasp rear of trigger guard with thumb and forefinger of right hand and pull firing mechanism down and out until released.

(3) Lift out firing mechanism.

c. Separate barrel and receiver from stock:

(1) Hold the muzzle end of the weapon down.

(2) Strike up on small of stock, separating stock from barrel and receiver.

d. Remove connector assembly:

(1) Place barrel and receiver group on left side, operating rod handle up, muzzle away. (On rifles modified for selective firing, press in and turn selector until face marked "A" is toward windage knob.)

(2) With bolt closed, place right thumb on rear of connector assembly and push forward until forward end of assembly can be lifted off connector lock.

(3) With thumb and forefinger of left hand, turn the connector assembly clockwise until elongated hole of connector assembly is aligned with elongated stud on sear release.

(4) Lower front end of connector assembly and lift rear end off elongated stud of sear release.

e. Remove operating rod spring and operating rod spring guide:

(1) Place barrel and receiver group on flat surface, sights down, muzzle to left.

(2) With left hand, pull operating rod spring toward muzzle, relieving pressure on connector lock.

(3) With right forefinger, pull connector lock toward

you, allowing operating rod spring to expand slowly.

(4) Disconnect and remove operating rod spring and guide.

(5) Separate the two parts.

f. Remove operating rod:

(1) Turn barrel and receiver group so sights are up and muzzle points away from you.

(2) Pull operating rod handle back until guide lug is aligned with disassembly notch on right side of receiver.

(3) Rotate operating rod down and out, disengaging it from operating rod guide.

g. Remove bolt:

(1) Grasp bolt by roller.

(2) Slide it forward, lifting up and out to right front with slight rotating motion.

h. Remove gas system:

(1) With wrench of combination tool, loosen and remove gas cylinder plug.

(2) Tilt muzzle down and remove gas piston from gas cylinder.

(3) Unscrew gas cylinder lock.

(4) Slide lock and cylinder forward so gas port is exposed.

i. Remove handguard:

(1) Slip front band forward toward front sight.

(2) Push handguard toward front sight lifting from barrel.

3. Clean Weapon: (See fig. 1)

a. Gas cylinder plug:

(1) Pour small quantity of bore cleaner in plug.

- (2) Insert and rotate bore cleaning brush.
- (3) Remove brush.
- (4) Clean and dry plug with patches.

b. Gas cylinder (use no abrasive cleaners and do not oil interior surfaces):

- (1) Install patch holder on cleaning rod.
- (2) Put two patches moistened with bore cleaner in holder and swab cylinder bore.

- (3) Dry cylinder bore with patches.

c. Gas piston (use no abrasive cleaners and do not oil):

- (1) Saturate patches with bore cleaner and thoroughly clean exterior surface.

- (2) Affix bore cleaning brush on cleaning rod.

- (3) Moisten brush with bore cleaner and clean piston interior.

- (4) Wipe piston dry.

d. Face of bolt:

- (1) Clean face of bolt with patch and bore cleaner (carefully clean inside edges).

- (2) Remove bore cleaner with patches.

- (3) Lightly oil.

e. Spindle valve: Depress and rotate spindle valve several times after each day's firing. (Do not disassemble.)

f. All other parts:

- (1) Using dry cloth, clean all exterior surfaces.
- (2) Apply light coat of oil to metal parts.
- (3) Rub raw linseed oil into wooden parts.

NOTE: Thoroughly clean weapon the same day fired, and for 3 consecutive days wipe bore with clean patch and lightly oil.

4. Maintain Magazine. (Follow procedures and use materials prescribed for the G3A4 rifle, task number 331-915-0074).

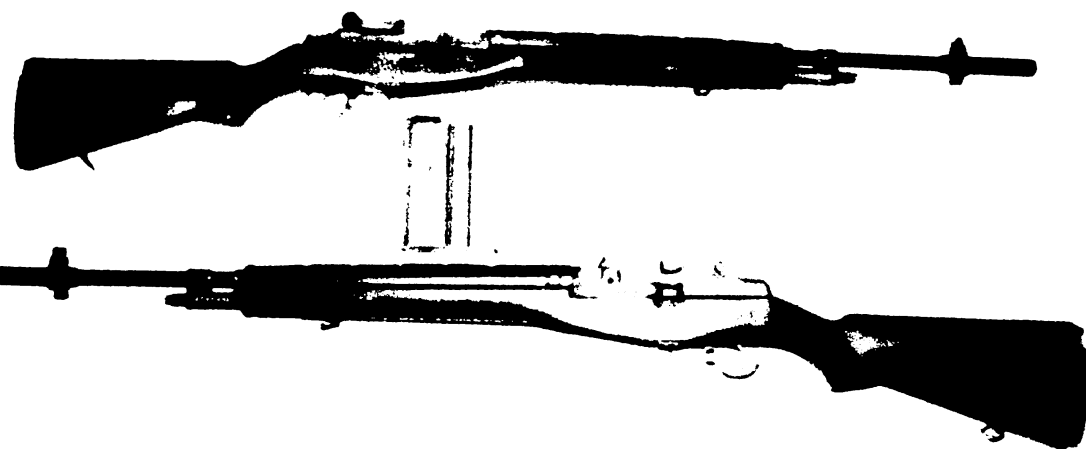


Figure 2

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-375-0105, FM 7-11B1/2.)

6. Reassemble Weapon Within 6 Minutes:

a. Gas system:

- (1) Slide gas cylinder rearward through front band.
- (2) Tighten gas cylinder lock in position and back it off until loop is aligned with gas cylinder.
- (3) Replace gas piston with flat part toward barrel and open end toward muzzle (properly seated, the gas piston protrudes 1 1/2 inches below gas cylinder).
- (4) Replace gas cylinder plug and tighten securely with wrench of combination tool.

b. Replace bolt:

- (1) Place barrel and receiver on flat surface with sights up and muzzle pointing away.
- (2) Hold bolt by roller and locking lug.
- (3) Place rear of bolt on bridge of receiver, firing pin tong pointing down.
- (4) Turn bolt counterclockwise until tong clears bridge.
- (5) Guide left locking lug of bolt into its groove on receiver.
- (6) Lower right locking lug on its bearing surface and slide bolt halfway to rear.

c. Replace operating rod:

- (1) Holding operating rod handle, position front end into operating guide so that recess in hump fits over bolt roller.
- (2) Turn operating rod to left until guide lug fits into receiver disassembly notch.
- (3) Move operating rod forward until bolt is closed.

d. Replace operating rod spring and operating rod spring guide:

- (1) Turn barrel and receiver so sights are down and muzzle points left.
- (2) Place operating rod spring guide hump up into operating rod spring and feed spring into operating rod.
- (3) Compress spring and guide until hole in guide can be aligned with connector lock.
- (4) Lower guide and push connector lock in.

e. Replace connector assembly:

- (1) Place barrel and receiver on side, operating rod handle up, muzzle away.
- (2) Place elongated hole in rear of connector

assembly on elongated stud on rear sear release.

(3) Place right thumb on rear of connector assembly, first finger on sear release bracket, and second finger inside rear of receiver.

(4) With right thumb, push toward muzzle, and with left thumb and first finger, turn front of connector counterclockwise until it can be snapped onto connector lock.

f. Handguard:

(1) Place rifle on flat surface, sights up, muzzle right.

(2) Engage ends of handguard band with slots on rear of barrel.

(3) Slide handguard rearward (do not snap or force handguard into position).

(4) Replace front band.

g. Barrel and receiver group:

(1) Place barrel and receiver group on flat surface, sights down.

(2) Holding stock group, engage stock ferrule into front band and lower stock group onto barrel and receiver group.

h. Firing mechanism:

(1) Open trigger guard and place firing mechanism straight into receiver (guide rib must enter recess in receiver).

(2) Strike trigger guard to engage in receiver.

7. Perform Function Check Within 20 Seconds:

(Follow procedures prescribed for the M16A1 rifle, task number 071-311-2001, FM 7-11B1/2.)

REFERENCES:

FM 23-8, M14 and M14A1 Rifles and Rifle Marksmanship (chap 2, sec V, pages 41-53, and sec VI, pages 54-55)
FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0088

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE,
UNLOAD, AND CLEAR A BRITISH ENFIELD .303 RIFLE

CONDITIONS:

You will be given an Enfield .303 and one feeder clip containing four rounds of caliber .303 ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon.

a. Adjust:

(1) Adjust sights of Model No. 1; model number is located at top of receiver: (See fig. 1) Press the slide locks on the rear sight and move the slide along the leaf until the index mark is aligned with the number denoting the specified range in hundreds of yards (100-460 yards).

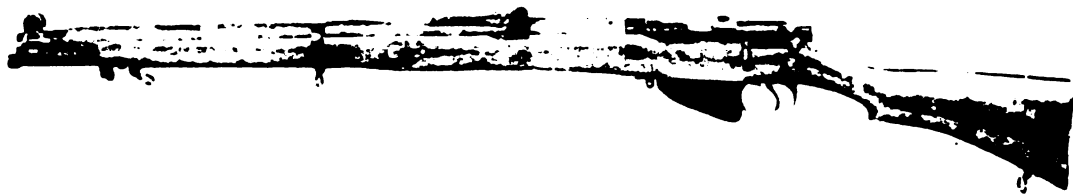
(2) Adjust sights of Model No. 4 with "L" rear sight: (See fig. 2)

(a) Flip the sight to the specified range—300 or 600 yards.

(b) The 300-yard aperture is used for firing at 400 yards if the bayonet is attached.

(3) Adjust sights of Model No. 4 with adjustable rear sight: (See fig. 3)

(a) Lift the leaf and move the slide until the index mark is aligned with the number denoting the specified range in hundreds of yards (100-460 yards).



Rifle 303 No 1 Mk III 1907 (RMCS)

Figure 1

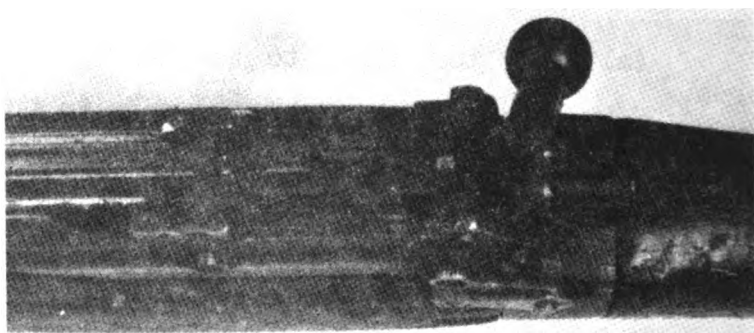


Figure 2

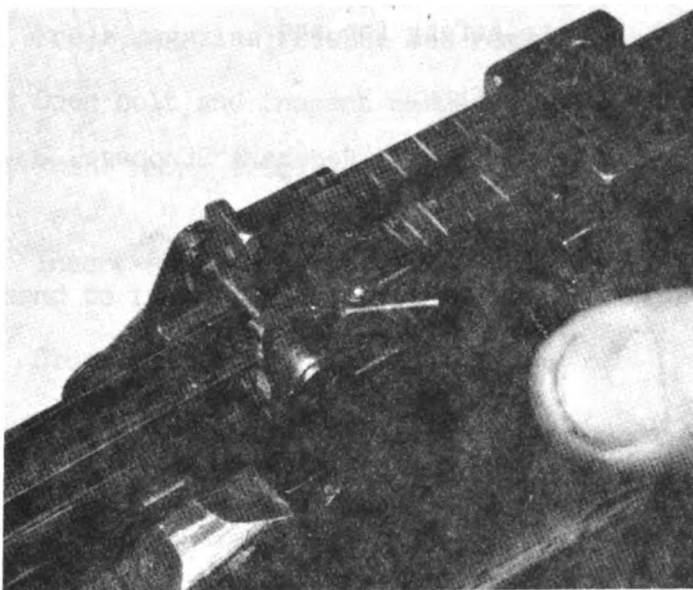


Figure 3

(b) The slide is moved either by pressing the catch on the slide or by turning the adjusting screw at the top of the slide, depending on the model of the sight.

(c) The fixed large battle sight aperture can be used when the sight is folded down; this is set for about a 300-yard range.

b. Load within 20 seconds:

(1) Turn bolt handle up as far as it will go and pull it straight back to the limit of travel.

(2) Insert loaded clip in the clip guide in the receiver and press the cartridges down into the magazine with your thumb.

(3) Remove empty clip.

(4) Insert a second clip, and repeat for a total of 10 rounds.

(5) Push bolt handle forward and down.

NOTE: Unless weapon is to be fired immediately, pull the thumb rocker on the left rear of the receiver to "SAFE."

c. Fire within 5 seconds:

- (1) Rotate safety forward.
- (2) Aim and fire.

2. Take Immediate Action To Reduce A Stoppage.

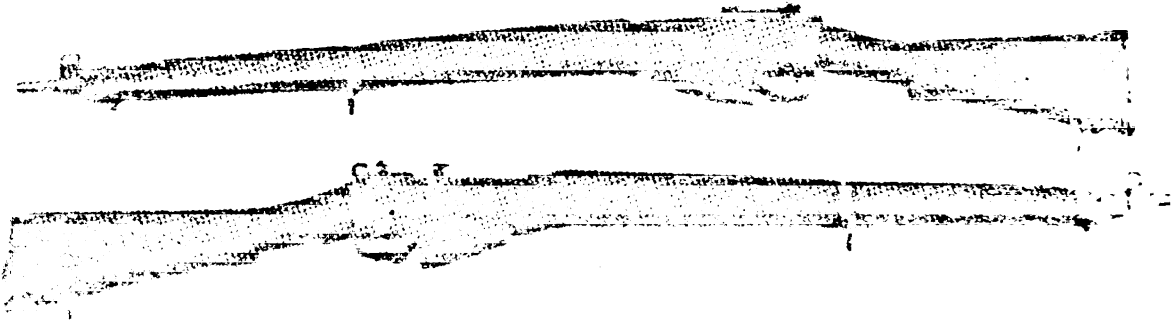


Figure 4

a. Apply immediate action within 5 seconds:

- (1) Pull bolt to rear and then push forward.
- (2) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage,

follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.

3. Unload and Clear Weapon Within 15 Seconds.

- a. Press magazine release and remove magazine.
- b. Open bolt and inspect chamber.
- c. Push any remaining cartridges forward, out of magazine.
- d. Insert empty magazine into rifle and strike it with heel of hand to insure proper seating.
- e. Close bolt and press trigger.
- f. Set on "SAFE."

REFERENCE:

None

331-915-0089

MAINTAIN A BRITISH ENFIELD .303 RIFLE

CONDITIONS:

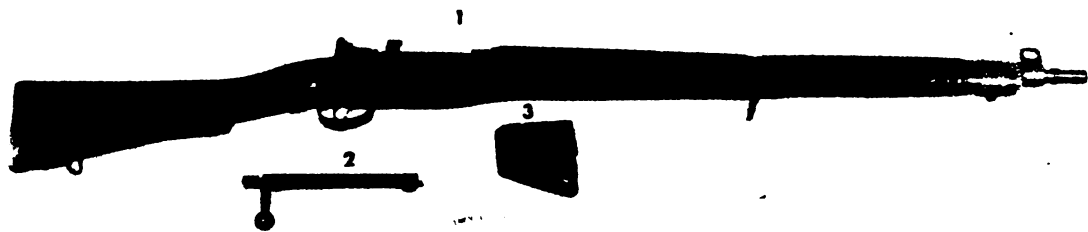
You will be given an Enfield .303; five rounds of caliber .303 ammunition; a cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 50 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See fig. 1 and 2)
2. Disassemble Weapon Within 10 Seconds. (See fig. 1)



Rifle Enfield 303 British

- | | |
|----------------------------|-------------|
| 1. Barrel & receiver group | 3. Magazine |
| 2. Bolt | |

Figure 1

a. Clear weapon within 10 seconds (do not insert magazine):

(1) Remove guide.

(2) Remove spring.

b. Remove bolt:

(1) If Model Number 1:

(a) Open bolt and draw it to rear.

(b) Press up on bolthead until it is released by bolthead catch and head is vertical (use considerable force).

(c) Pull bolt to rear out of receiver.

(2) If Model Number 4, Mark 1:

(a) Open bolt and draw it slightly to rear until bolthead is aligned with disassembly cut in receiver.

(b) Turn bolthead up.

(c) Lift rear sight to its vertical position and pull bolt out of receiver.

(3) If Model Number 4 Sniper rifle or Model Number 5 carbine:

(a) Open bolt.

(b) Depress and hold bolt catch and pull bolt to rear.

(c) Turn bolthead to vertical position.

(d) Lift rear sight and pull the bolt to rear and out of rifle.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Ammunition. (Follow procedures prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

5. Reassemble Weapon Within 20 Seconds.

a. Insure bolthead is screwed into bolt as far as

possible; then back off until it is in line with bolt guide rib.

b. Replace bolt.

(1) For Model Numbers 4 and 5 rifles:

(a) Insure rear sight leaf is vertical.

(b) Insert bolt into receiver.

(c) When bolthead is just forward of shoulder, turn head down.

(2) For Model Number 4 Sniper and Number 5 Carbine:

(a) Press bolt forward until bolthead is aligned with cut in receiver.

(b) Seat bolthead into cut and close bolt.

(3) For all other models, as soon as bolthead clears shoulder, press it down against spring catch until bolt can be pushed forward.

c. Reinsert magazine.

6. Perform Function Check Within 10 Seconds.

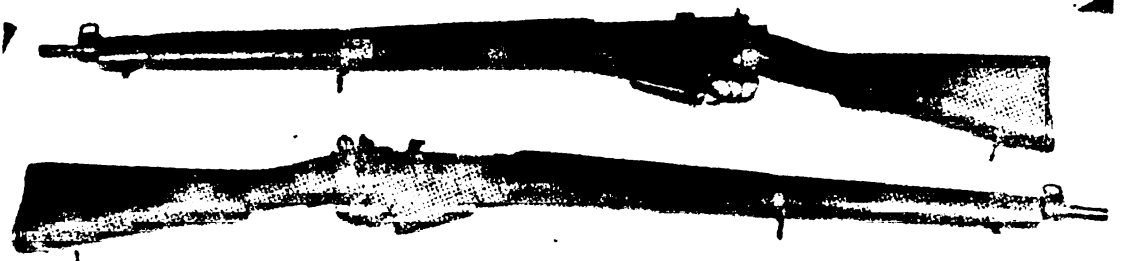


Figure 2

FM 31-11B-S

- a. Rotate safety to rear ("SAFE").
- b. Depress trigger (weapon should not fire).
- c. Rotate safety forward ("FIRE").
- d. Depress trigger (weapon should fire).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0090

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
AN AMERICAN M1200 12-GAUGE RIOT GUN

CONDITIONS:

You will be given an M1200, four rounds of 12-gauge ammunition, and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Load and Fire Weapon.

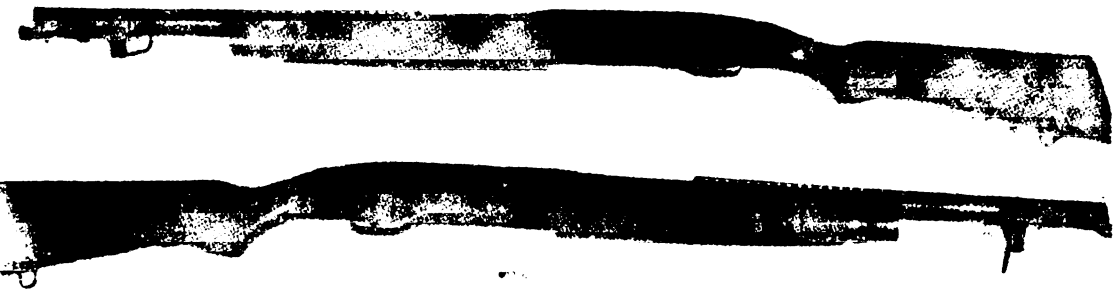


Figure 1

- a. Load within 15 seconds:
 - (1) Place safety in locked position ("ON").
 - (2) Load four cartridges into magazine.
 - (3) Release disconnecter assembly.
 - (4) Retract slide and push it forward to chamber one cartridge.
 - (5) Place fifth cartridge in magazine.
- b. Fire within 5 seconds:
 - (1) Push safety to unlocked position ("OFF").
 - (2) Pull trigger to fire.
 - (3) Pull slide to rear, then forward to eject spent round and load new round into chamber.
 - (4) Release trigger and repull for each chambered round.
 - (5) Continue action until weapon is empty.
2. Take Immediate Action To Reduce A Stoppage.
 - a. Apply immediate action within 5 seconds:
 - (1) Release trigger.
 - (2) Pull slide to rear to eject round in chamber.
 - (3) Push slide forward to chamber another round.
 - (4) Aim and attempt to fire.
 - b. If immediate action fails to reduce the stoppage, proceed as follows:
 - (1) If weapon fails to fire, check for
 - (a) Failure to load. (Pump shell into chamber.)
 - (b) Empty magazine. (Load magazine.)
 - (c) Faulty ammunition. (Pump out defective shell(s) and insert new ammunition.)

(d) Failure of bolt slide to move forward.
(Push slide forward.)

(2) If weapon fails to load or feed, check for

(a) Obstruction in chamber. (Clean receiver.)

(b) Defective carrier assembly. (Return to direct support maintenance.)

(3) If weapon fails to function, inspect for foreign matter in bolt slide or safety well of trigger guard. (Clean bolt slide and safety well.)

3. Unload And Clear Weapon Within 10 Seconds.

a. Place safety in locked position "ON."

b. Remove cartridges from magazine.

(1) Push down on carrier assembly.

(2) Depress cartridge cutoff.

NOTE: Lift up slightly on cartridge base to clear carrier assembly.

(3) Remove cartridges.

c. Release disconnect assembly.

d. Pull slide to rear.

CAUTION: Make certain magazine follower is visible to insure that no shells remain in magazine. With breech open, inspect chamber to insure it is empty.

REFERENCE:

TM 9-1005-303-14, Operator, Organizational, DS and GS Maintenance Manual Including Repair Parts and Special Tool List: Shotgun, 12 Gauge, Winchester Model 1200, Riot Type, 20 Inch Barrel W/E (1005-921-5483), changes 1-3 (chap 2, pages 4-7; chap 4, sec II, pages 16-17)

331-915-0091

MAINTAIN AN AMERICAN M1200 RIOT GUN AND AMMUNITION

CONDITIONS:

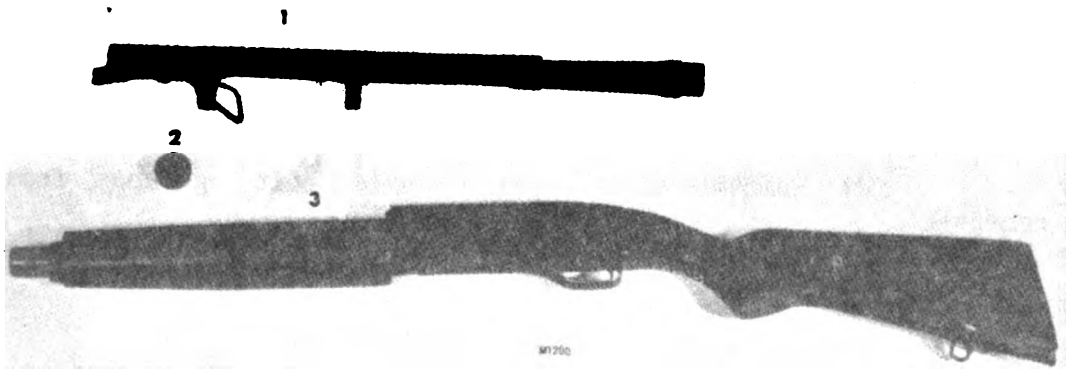
You will be given an M1200; five rounds of 12-gauge ammunition; a plastic hammer, cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 50 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2)
2. Disassemble Weapon Within 2 Minutes.



Rifle M1200 USA

- | | |
|-----------------|---------------------|
| 1. Barrel | 3. Stock & receiver |
| 2. Magazine cap | |

Figure 1

- a. Clear weapon within 10 seconds.
- b. Remove barrel and bayonet band assembly.
 - (1) Remove cap by turning it counterclockwise.
 - (2) Remove barrel and bayonet band assembly.

NOTE: All pins should be removed from left to right where applicable.

- c. Disassemble gun shoulder stock group:
 - (1) Remove butt plate screws and butt plate.

CAUTION: If using screwdriver, insure that it is in bolt slot and not between bolthead and stock wall. If pressure is applied to screwdriver when in latter position, it will break out the stock wall.

- (2) Remove machine bolt and lock washer.
 - (3) Remove stock with swivel assembly.
- d. Remove trigger guard group:
 - (1) Remove trigger guard pin.
 - (2) Remove trigger guard group.
- e. Remove fore end and breech bolt groups:
 - (1) Remove slide arm bridge retaining screw.
 - (2) Remove slide and breech bolt groups from receiver.
 - (3) Separate breech bolt group from slide group.
- f. Separate slide group:
 - (1) Remove slide arm cap.
 - (2) Remove slide.
- g. Remove receiver and magazine group:
 - (1) Remove ejector.

NOTE: When breech bolt group is removed, the ejector will fall free of the support pin in the receiver.

(2) Disassemble magazine:

(a) Remove magazine plug.

CAUTION: Hold thumb and forefinger on plug to retain pressure.

(b) Remove plug and helical compression spring (magazine).

NOTE: Do not attempt to remove magazine from receiver.

(c) Remove magazine follower.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 4 Minutes.

NOTE: All pins should be installed from right to left where applicable.

a. Replace receiver and magazine group:

(1) Reassemble magazine:

(a) Replace magazine follower.

(b) Replace plug and helical compression spring (magazine).

(c) Replace magazine plug.

(2) Replace breech bolt group, ejector, and slide arm bridge retaining screw.

(a) Replace breech bolt group on fore end of group.

(b) Replace breech bolt and slide groups and ejector in receiver.

(c) Place ejector between bolt slide and front end of left side of receiver.

(d) Push ejector to rear until ejector end contacts ejector support pin.

(e) Pry out on ejector with a small screwdriver and seat ejector on ejector support pin.

b. Replace slide group:

(1) Replace slide.

(2) Replace slide arm cap.

(3) Replace slide and breech bolt groups.

(a) Replace breech bolt group to slide group.

(b) Replace slide and breech bolt groups in receiver.

(c) Replace slide arm bridge retaining screw.

c. Replace trigger guard group.

d. Replace trigger guard pin.

e. Reassemble shoulder stock group:

(1) Replace stock with swivel assembly.

(2) Replace machine bolt and lock washers.

(3) Replace butt plate screws and butt plate.

f. Replace barrel and bayonet band assembly:

(1) Replace barrel and bayonet band assembly.

(2) Replace cap.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Perform Function Check Within 10 Seconds.

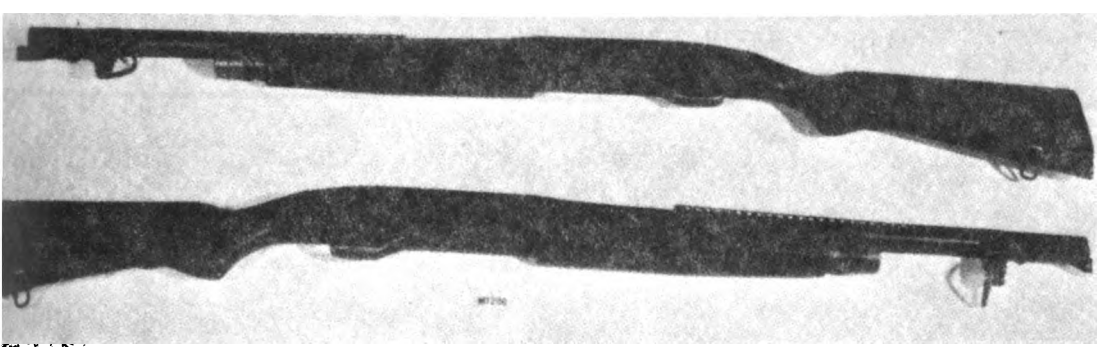


Figure 2

- a. Place shotgun on "SAFE."
- b. Insert five expended rounds into weapon (same as load).
- c. Press trigger (weapon should not fire).
- d. Place shotgun on "FIRE."
- e. Press trigger (weapon should fire).
- f. Pump slide rearward and forward until all rounds are clear of weapon and magazine.
- g. Place weapon on "SAFE."

REFERENCE:

9-1005-303-14, Operator, Organizational, DS and GS Maintenance Manual Including Repair Parts and Special Tool List: Shotgun, 12 gauge, Winchester Model M1200, Riot Type, 20 Inch Barrel, W/E 005-921-5483), changes 1-3 (chap 3, sec IV and VI, pages 9-14; ap 7, page 36)

331-915-0092

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR A SOVIET AKM ASSAULT RIFLE

CONDITIONS:

You will be given a Soviet AKM and a magazine containing 29 rounds of 7.62 x 39mm M43 ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.
 - a. Adjust sights.
 - (1) Adjust rear sight: (See fig. 1)

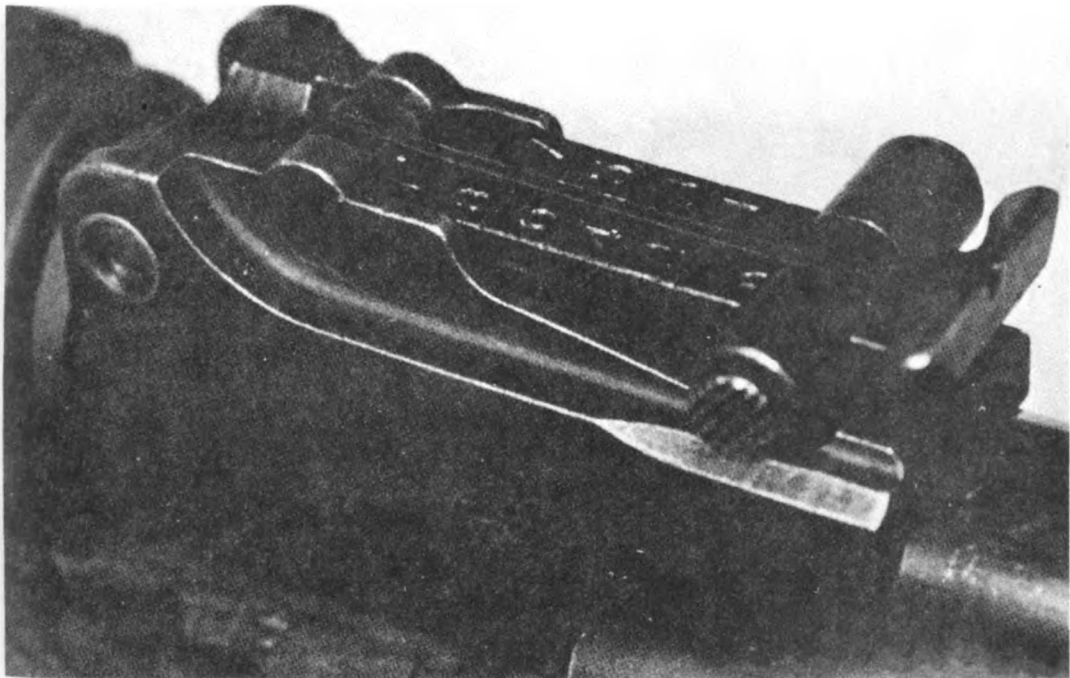


Figure 1

(a) Press the slide catch and move sight bar up until it is aligned with specified range in hundreds of meters (100-460 meters).

(b) The first character on the sight leaf is a battle sight setting, used in combat for shooting up to 300 meters.

(2) Adjust front sight: (See fig. 2)

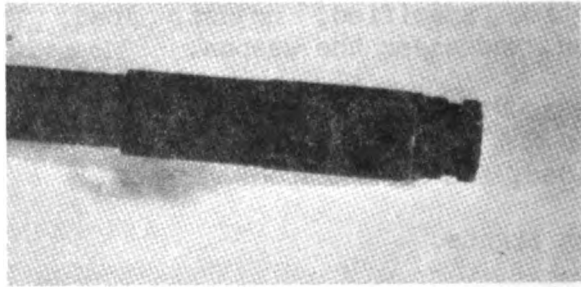


Figure 2

(a) Elevation is set by screwing the front post in and out of its base with the combination wrench.

(b) Lateral changes are set by moving the front post mount side to side.

b. Load weapon within 10 seconds:

(1) Insert magazine into receiver, tilted forward, allowing the top front lug of the magazine to seat in the recess of the magazine well.

(2) Swing magazine rearward until catch snaps into place.

(3) Move selector up to place on "SAFE."

c. Fire weapon within 5 seconds:

(1) Set selector from "SAFE" to desired firing position (center for automatic, bottom for semiautomatic).

(2) Pull the operating handle back and release it.

(3) Aim and fire.

2. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 5 seconds.

(1) Tap bottom of magazine.

(2) Pull operating handle to rear and release it.

(3) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0052.

3. Unload and Clear the Weapon Within 10 Seconds.



Figure 3

a. Unload:

- (1) Press magazine catch toward magazine.
- (2) Swing the magazine forward, out of the receiver.

b. Clear:

- (1) Pull the operating handle to rear and inspect receiver and chamber.
- (2) Release operating handle.
- (3) Press trigger.
- (4) Push selector up to "SAFE" position.

REFERENCE:

TEC Lesson 011-331-0092, Operate a Soviet AKM Rifle

331-915-0093

MAINTAIN A SOVIET AKM ASSAULT RIFLE, MAGAZINE, AND AMMUNITION

CONDITIONS:

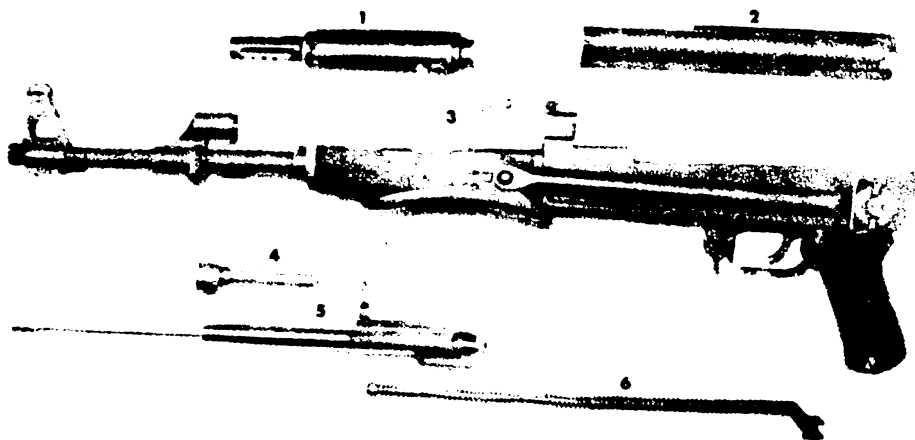
You will be given an AKM assault rifle; five rounds of 7.62 x 39mm M43 ammunition; a magazine, cleaning rod, wire bore brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain magazine and ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2)
2. Disassemble Weapon Within 1 Minute.



RIFLE AK SOVIET

- | | |
|----------------------|------------------|
| 1. Gas Cylinder | 4. Bolt |
| 2. Receiver Cover | 5. Bolt Carrier |
| 3. Barrel & Receiver | 6. Recoil Spring |

Figure 1

a. Clear weapon within 10 seconds leaving magazine out and safety off.

b. Remove bolt cover:

(1) Press serrated end of driving spring guide into bolt cover.

(2) While holding guide in, lift off bolt cover, rear end first.

c. Remove driving spring assembly:

(1) Press driving spring guide forward and disengage from seat.

(2) Pull complete driving spring assembly from bolt carrier.

d. Remove bolt and carrier:

(1) Pull operating handle to rear, lifting bolt carrier slightly upward.

(2) Remove bolt and carrier to the rear.

e. Separate bolt from carrier:

(1) Press bolt into carrier until bolt operating lug can be twisted free of its cam path in carrier.

(2) Pull bolt straight forward removing it from carrier.

f. Remove gas cylinder tube:

(1) Free gas cylinder tube by rotating lock upward (some combination tool kit cases have long slot along one side to help rotate stiff tube locks).

(2) Remove tube by pulling up on rear of handguard.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

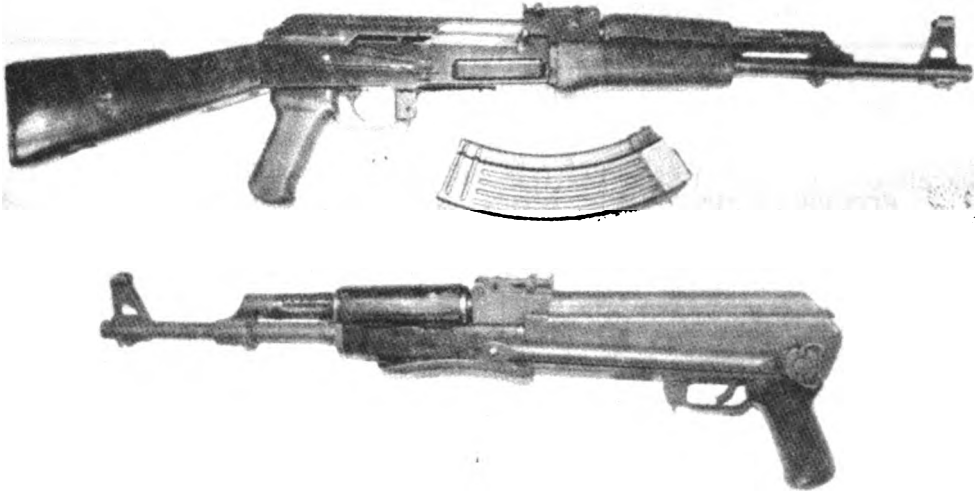


Figure 2

5. Reassemble Weapon Within 3 Minutes.

a. Replace gas cylinder tube:

- (1) Engage front opening of gas cylinder tube with gas cylinder.
- (2) Seat rear of tube into rear sight base.
- (3) Rotate gas cylinder tube lock down to locked position.

b. Replace bolt:

- (1) Slide bolt spindle into the carrier rotating bolt to engage operating lug with its cam path.
- (2) Pull bolt into carrier.

c. Replace carrier:

- (1) Slide piston into hole under rear sight until

carrier fits into its cuts at rear of receiver.

(2) Press carrier down (bolthead must be forward).

(3) Slide carrier forward.

d. Replace bolt cover:

(1) Insert driving spring into bolt carrier and reseal guide into receiver.

(2) Insert front end of bolt cover into circular groove in rear sight base.

NOTE: Some covers have front end antirattle dimples. If this is the case,

(a) Apply thumb pressure over square opening in rear of cover.

(b) Press forward and down until end of driving spring guide snaps through opening.

e. Press trigger to release hammer.

f. Set selector on "SAFE."

6. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 20 Seconds. (See fig. 2) (Follow procedures prescribed for the M16A1 rifle, task number 071-311-2001, FM 7-11B1/2.)

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman
TEC Lesson 011-331-0093, Maintain a Soviet AKM Rifle, Magazine, and Ammunition

331-915-0094

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR AN AMERICAN BROWNING AUTOMATIC RIFLE (BAR)

CONDITIONS:

You will be given a BAR and one magazine containing 19 rounds of caliber .30 ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon.
 - a. Adjust weapon:
 - (1) Adjust rear sight: (See fig. 1)

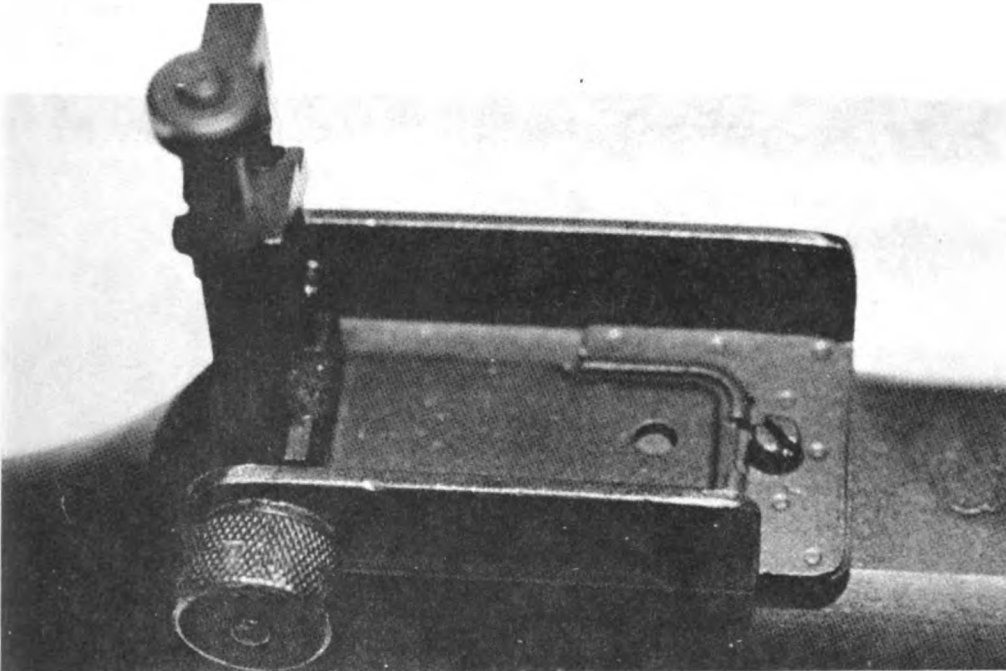


Figure 1

(a) Lower the rear sight leaf to use the open battle sight (300-yard range).

(b) Raise the rear sight leaf to use the adjustable aperture sight.

(c) Turn the elevation knob until the index line on the slide aligns with the number of the specified range (100-460 meters).

(d) Turn windage knob to compensate for crosswinds.

(2) Lower the bipod.

b. Load weapon within 10 seconds.

(1) Set change lever to "SAFE."

(2) Cock weapon.

(3) Insert magazine.

(4) Tap up on magazine base to seat it.

c. Fire weapon within 5 seconds.

(1) Rotate change lever to desired setting: (See fig. 2)

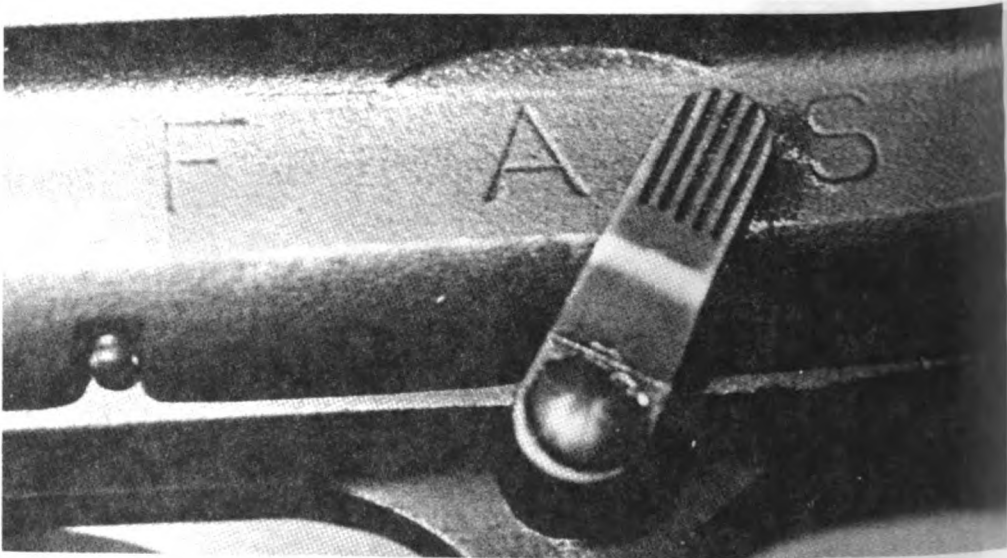


Figure 2

- (a) "S" for safe.
- (b) "F" for slow fire.
- (c) "A" for fast fire.

(2) Aim and fire.

NOTE: If rifle shows signs of insufficient gas (sluggish), turn regulator assembly one click counterclockwise.

2. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 5 seconds.

- (1) Pull operating handle to rear.
- (2) Push operating handle forward.
- (3) Firmly tap up on bottom of magazine.
- (4) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0052.

3. Unload and Clear Weapon Within 10 Seconds.

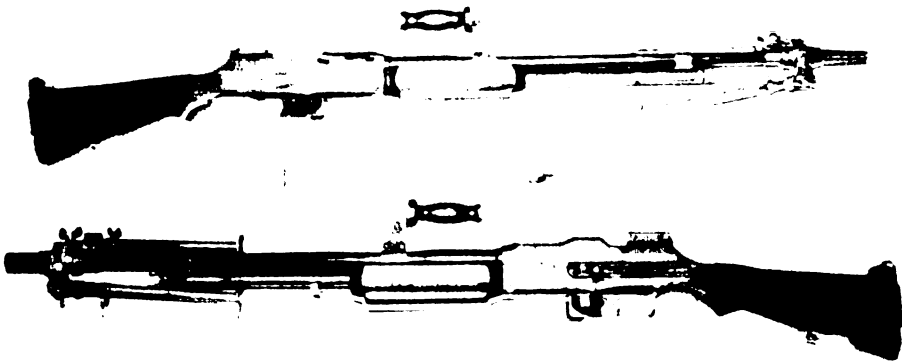


Figure 3

- a. Unload weapon:
 - (1) Press magazine release.
 - (2) Remove magazine.
- b. Clear weapon:
 - (1) Pull operating handle rearward.
 - (2) Inspect chamber.
 - (3) Push operating handle forward.
 - (4) Pull trigger.

REFERENCES:

TEC Lesson 011-331-0094, Operate an American Browning Automatic Rifle (BAR)

331-915-0095

MAINTAIN AN AMERICAN BROWNING AUTOMATIC RIFLE (BAR), MAGAZINE, AND AMMUNITION

CONDITIONS:

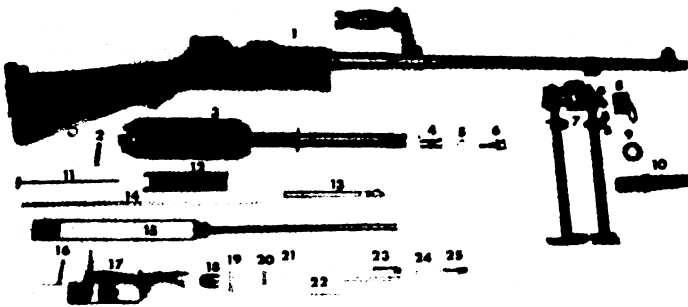
You will be given a BAR; five rounds of caliber .30 ammunition; a magazine, combination tool, gas cylinder, cleaning tool, drift punch, reamer, cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, string, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs 1 and 2)
2. Disassemble Weapon Within 8 Minutes. (See fig. 2)



RIFLE BAR USA

- | | | |
|------------------------------------|--|----------------------|
| 1. Barrel & Receiver | 10. Flash Heder or Supprissor | 18. Hammer |
| 2. Gas Cylinder Tube Retaining Pin | 11. Recoil Spring Guide | 19. Hammer Pin |
| 3. Gas Cylinder Tube & Forearm | 12. Heat Shield | 20. Bolt Link Pin |
| 4. Body | 13. Operating Handle | 21. Bolt Link |
| 5. Body Lock Key | 14. Recoil Spring | 22. Firing Pin |
| 6. Gas Regulator | 15. Slide Assembly | 23. Bolt & Bolt Lock |
| 7. Bipod Assembly | 16. Trigger Guard Retaining Pin Assembly | 24. Extractor Spring |
| 8. Front Sight Cover | 17. Trigger Group | 25. Extractor |
| 9. Friction Washer | | |

Figure 1

- a. Clear weapon within 10 seconds and leave magazine out.
- b. Loosen carrying handle screws and swing handle to one side.
- c. Place rifle on flat surface, sights down, and muzzle left.
- d. Remove sling and upper sling swivel.
- e. Pull operating handle rearward and then push forward (weapon is cocked).

f. Remove gas cylinder and forearm.

(1) Turn gas cylinder tube retaining pin assembly clockwise 180° and remove it.

(2) Remove gas cylinder tube and forearm by sliding them toward muzzle end of weapon (if necessary strike wooden forearm with hand to unseat).

g. Remove trigger group:

(1) Hold slide assembly with left hand.

(2) Press trigger with right thumb allowing operating parts to slowly move forward. (CAUTION: Do not burr piston rings by allowing them to hit gas cylinder tube bracket as parts go forward.)

(3) Rotate trigger guard retaining pin assembly clockwise 90 degrees using a pointed object.

(4) Remove trigger guard retaining pin assembly.

(5) Lift out trigger group. (NOTE: Insure the ejector points up when it is set aside so the trigger pin will not fall out.)

h. Remove recoil spring and guide.

(1) Hold slide assembly in left hand (palm down).

(2) Press on checkered surface of recoil spring guide.

(3) Turn recoil spring guide until its ends are clear of retaining shoulders in forward end of receiver.

(4) Slide recoil spring and guide off rear of receiver.

(5) Separate the two parts.

i. Remove operating handle and hammer pin.

(1) Hold receiver with left hand (palm down) so that the left forefinger rests against knob of operating handle.

(2) With side assembly forward, insert point of recoil spring guide in operating handle hole.

(3) Press against hammer pin with recoil spring guide while pushing operating handle slowly rearward.

(4) Push hammer pin part way through its hole in receiver.

(5) Remove operating handle by pulling it to rear.

(6) Remove hammer pin.

j. Remove hammer.

(1) Pull slide until hammer falls from its seat in rear of slide.

(2) Lift hammer from receiver.

k. Remove slide assembly.

(1) Push bolt link down, allowing slide to clear it.

(2) Remove slide assembly to the front.

NOTE: Do not burr piston rings on gas cylinder tube bracket.

l. Remove bolt assembly by prying on bolt guide with a pointed object and, at the same time, pulling bolt link upward and to rear of bolt assembly, lifting it out of receiver.

m. Remove firing pin.

(1) Hold bolt in left hand, feed rib up, front end of bolt pointing left.

(2) Allow bolt lock to swing downward, exposing firing pin.

(3) Remove firing pin from feed rib.

n. Disassemble bolt link and bolt.

(1) Push out bolt link pin using recoil spring guide.

(2) Lift out bolt link.

o. Remove extractor and extractor spring.

(1) Hold bolt and bolt lock in left hand with bolt face up and extractor claw to the right.

(2) Place a pointed object under claw of extractor.

(3) Press out and up, unseating extractor.

(4) Remove extractor and extractor spring.

p. Remove gas cylinder assembly.

(1) Remove the gas cylinder regulator assembly by turning it counterclockwise (use the combination tool for the first few turns if necessary).

(2) Lift out the body lock key from the lock key recess in the gas cylinder body.

(3) Unscrew the gas cylinder body from the gas cylinder tube in a counterclockwise manner.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Clean Gas System. (See fig. 2)

a. Insert large reamer of gas cylinder cleaning tool into gas cylinder body.

b. Gradually turn large reamer to right scraping into gas cylinder head several turns to cut carbon from bottom inside surface of gas cylinder body.

c. Withdraw and reverse tool.

d. Using recess cutter, remove carbone frm recesses at forward end of gas cylinder body interior.

e. Using the drift punch, clean gas ports in barrel, gas cylinder tube, gas cylinder body, and regulator assembly.

f. Scrape carbon from face of gas piston with front cutting edge.

g. Remove carbon deposit between piston rings with point of drift.

h. Clean forward end of regulator assembly with small reamer.

i. Wipe regulator with a rag saturated with bore cleaner if available (if not, wash with warm soapy water or plain hot water).

j. Dry thoroughly and inspect for cleanliness.

k. When gas piston is clean and dry, oil lightly.

l. Clean gas cylinder tube with bore cleaner or warm soapy water (hot water may be used if bore cleaner or soap not available).

m. Clean gas cylinder tube:

(1) Tie cloth to a piece of string.

(2) Pull cloth back and forth inside cylinder tube.

(3) Dry thoroughly and inspect.

(4) Oil lightly.

5. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

6. Reassemble Weapon Within 15 Minutes.

a. Replace gas cylinder assembly.

(1) Replace the gas cylinder body into the gas cylinder tube by turning it clockwise until it is finger tight.

(2) Turn counterclockwise until the body lock key recess is directly under the barrel.

(3) Insert the body lock key into the body lock key recess to hold gas cylinder body in position.

(4) Insert the gas cylinder regulator assembly into the gas cylinder body. Screw the regulator clockwise until it

is almost flush against the body lock key (a tolerance about the thickness of a sheet of paper will exist between shoulders).

NOTE: At this time you should be able to turn the regulator to three positions. In each position, you will hear the click made by the plunger slipping into one of three notches in the body lock key. Each click will mean that one of three gas ports is aligned (open).

(CAUTION: If you tighten the regulator too much or too little, you can still hear the clicks. However, by tightening it too much, you can align only one gas port; by tightening it too little, you cannot properly align any gas port.)

b. Place weapon on flat surface, sights down, muzzle pointing left.

c. Replace extractor and spring.

(1) Place short portion of extractor spring in hole of extractor (long portion of spring fits along groove on outside of extractor).

(2) Place extractor and extractor spring in their seat in face of bolt so tht claw of extractor faces center of bolt.

d. Assemble bolt lock and link.

(1) Hold bolt and bolt lock in left hand with the feed rib toward the body and the face of the bolt to the left.

(2) Hold bolt link in right hand, pointed side up, bolt link pin hole to the left.

(3) Assemble two parts and lock with bolt link pin.

e. Replace firing pin.

(1) Hold the bolt assembly in the left hand with the feed rib up.

(2) Allow bolt lock to swing down.

(3) Replace firing pin in the feed rib.

f. Replace bolt assembly.

(1) Locate rounded rear shoulders of bolt supports

found on either side of receiver (look down in receiver).

(2) Hold bolt assembly by feed rib so that face of bolt is toward muzzle.

(3) Lower bolt assembly into receiver so that feed rib passes directly to rear of bolt supports.

(4) Allow bolt lock and bolt link to drop down into receiver.

(5) Push down and rearward on feed rib.

(6) Push bolt assembly completely forward.

g. Replace slide assembly.

(1) Push bolt link down.

(2) Put slide assembly in place with hammer recess down. (Do not burr piston rings by striking them against gas cylinder tube bracket.)

h. Replace hammer.

(1) Hold hammer in left hand so thumb is on large flat surface and index finger is on center rib.

(2) Slide hammer into recess, rounded portion first.

i. Replace hammer pin.

(1) Using recoil spring guide, align hammer pin holes in hammer, bolt link in slide assembly.

(2) From far side of receiver, insert recoil spring guide through hammer pin holes.

(3) Place one end of hammer pin against end of recoil spring guide.

(4) Push in on hammer pin and, at same time, remove recoil spring guide with slow circular motion (this will keep hammer pin holes aligned as hammer pin is inserted but does not fully seat hammer pin).

j. Replace operating handle.

(1) With operating handle knob toward muzzle end of weapon, insert operating handle.

(2) Seat hammer pin.

k. Replace recoil spring and guide.

(1) Insert recoil spring guide into either end of recoil spring.

(2) Thread loose end of recoil spring through forward end of receiver and into gas piston.

(3) Place left hand index and middle fingers inside slide (to guide recoil spring and recoil spring guide and to prevent buckling).

(4) Push in on checkered surface of recoil spring guide.

(5) Rotate recoil spring guide and engage its ends in retaining shoulders of receiver.

l. Replace trigger group:

(1) Engage rear of trigger group into rear of receiver.

(2) Lock the trigger group in place by inserting the trigger guard retaining pin assembly.

m. Replace gas cylinder tube and forearm.

(1) Cock weapon (so gas cylinder tube and forearm can fit over gas piston without burring gas piston rings).

(2) Position gas cylinder tube and forearm so that their two metal studs engage with cutaway portion of the carrying handle.

(3) Insure gas cylinder tube is properly engaged with gas cylinder tube retaining pin assembly.

n. Tighten carrying handle screws.

7. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

8. Perform A Function Check Within 20 Seconds. (See fig. 1)

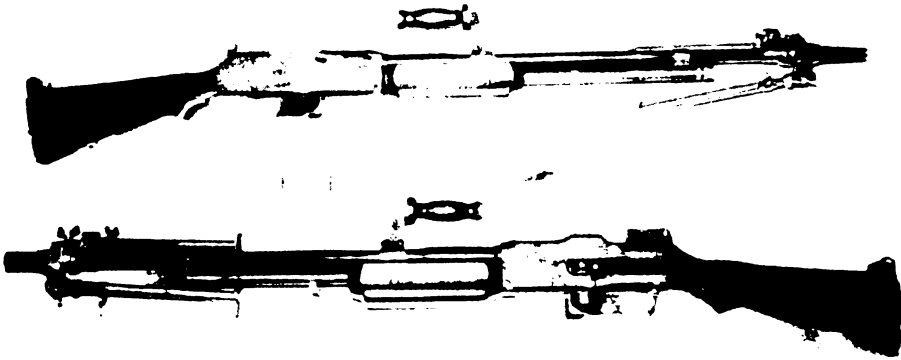


Figure 2

- a. Pull operating handle rearward and push it forward.
- b. Place change lever on "S" ("SAFE").
- c. Pull trigger (bolt should not go forward).
- d. Place change lever on "F" ("SLOW").
- e. Depress trigger (bolt should go forward).
- f. Keep trigger depressed, pull operating handle rearward, then slide it forward (bolt should not go forward with operating handle).
- g. Place change lever on "A" "FAST."
- h. Pull trigger (bolt should go forward).

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman
 TEC Lesson 011-331-0095, Maintain an American Browning Automatic Rifle (BAR)

331-915-0096

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD,
AND CLEAR AN AMERICAN M1903A4 RIFLE

CONDITIONS:

You will be given an M1903A4, an M73B1 telescope, and one clip containing four rounds of caliber .30 ammunition and an inert round.

STANDARDS:

Within the times specified, adjust, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon.
 - a. To adjust M73B1 telescope:
 - (1) Mount telescope. (See fig. 1.)



Figure 1

(a) Insert telescope front mounting bracket stud into its slot on weapon (hold telescope perpendicular to weapon to insert stud).

(b) Turn telescope to the rear until rear telescope bracket makes contact with telescope mount.

(c) Slightly raise telescope and align it to weapon; engage rear telescope bracket with its slot on mount.

(2) Focus telescope.

(a) Turn eyepiece clockwise or counterclockwise until target becomes clear at 300 meters.

(b) Turn lockring until it locks eyepiece into place.

(3) Adjust elevation by rotating elevation knob on top of telescope to specified range (one click raises or lowers strike of bullet 1 inch for each 100 meters of range).

(4) Adjust windage by rotating windage knob on left side of telescope as needed (one click moves strike of bullet 1 inch for each 100 meters of range).

NOTE: Dismount telescope:

(a) Lift up slightly on rear of telescope.

(b) Disengage telescope from its mount and rotate to the left until it is perpendicular to weapon.

(c) Lift telescope from front mounting bracket.

b. Load weapon:

(1) Set magazine cutoff in the "ON" position.

(2) Raise and then draw bolt handle back as far as it will go.

(3) Load magazine using a full clip:

(a) With left thumb, push down on top cartridge, forcing it down below the line of the bolt.

(b) Push the bolt slightly over the top cartridge.

- (4) Insert a cartridge into the firing chamber.
- (5) Push the bolt forward and turn to lock it.
- (6) Turn magazine cutoff to "OFF" position.

NOTE: Turn magazine cutoff to "ON" position when desiring to use magazine; otherwise you may single load only.

c. Fire weapon:

- (1) Press safety to left ("FIRE").
- (2) Aim, press trigger, and fire.

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage. (Follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.)

3. Unload And Clear Weapon Within 10 Seconds.

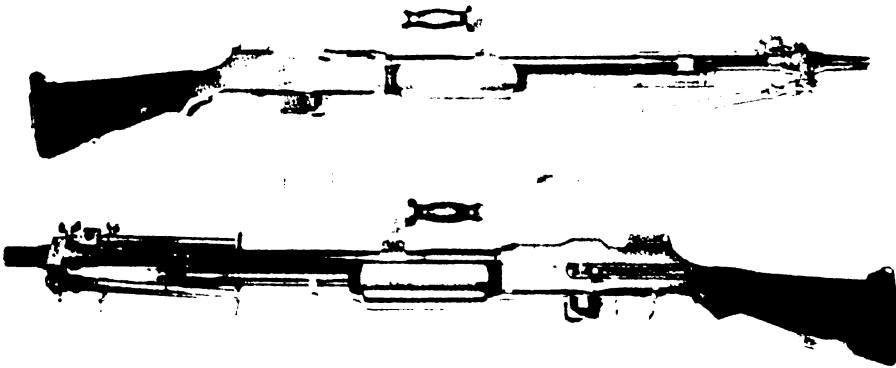


Figure 2

- a. Raise and then draw bolt handle back as far as it will go.
- b. Insert a pointed object into the floor plate of magazine to depress spring catch to release magazine.
- c. Inspect chamber and slide.
- d. Close magazine.
- e. Slide bolt forward.
- f. Press safety to right "SAFE".

REFERENCE:

None

331-915-0097

MAINTAIN AN AMERICAN M1903A4 RIFLE, MAGAZINE, AND AMMUNITION

CONDITIONS:

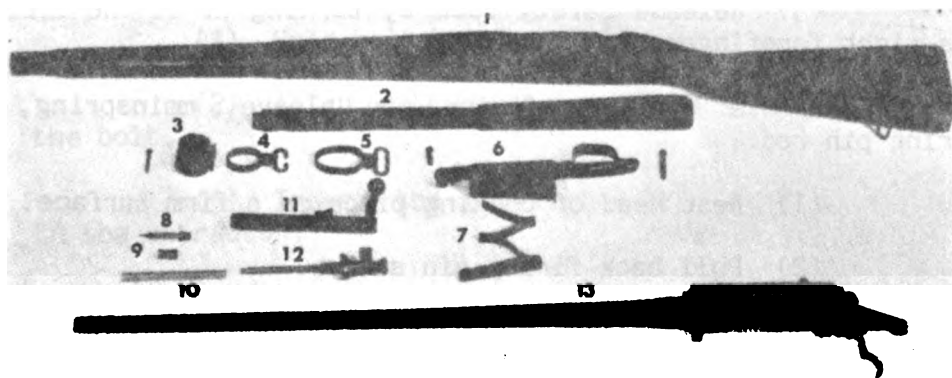
You will be given an M1903A4; five rounds of caliber .30 ammunition; a magazine, cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1).
2. Disassemble Weapon Within 2 Minutes. (See fig. 1.)



Rifle 03 USA

- | | |
|----------------------------------|----------------------------------|
| 1. Stock | 8. Striker |
| 2. Handguard | 9. Firing pin sleeve |
| 3. Bayonett band & screw | 10. Main spring |
| 4. Front band & stacking swivel | 11. Bolt body |
| 5. Rear band & sling swivel | 12. Firing pin rod & bolt sleeve |
| 6. Trigger guard & magazine well | 13. Barrel & receiver |
| 7. Magazine spring & follower | |

Figure 1

- a. Clear weapon within 10 seconds.
- b. Remove bolt:
 - (1) Turn cutoff down so the word "OFF" can be seen.
 - (2) Rotate bolt handle up as far as it will go.
 - (3) Pull bolt handle to rear and remove bolt.
- c. Dismount bolt:
 - (1) Hold bolt firmly in left hand.
 - (2) Press in bolt sleeve lock with right thumb and unscrew, turning to the left.
 - (3) Remove bolt sleeve assembly out of bolt.
- d. Relieve mainspring tension.
 - (1) Hold firing pin sleeve with left forefinger and thumb.
 - (2) Pull back on cocking piece with right middle finger and right thumb.
 - (3) Release safety lock by turning it to the left with the right forefinger.
- e. Remove striker, firing pin sleeve, mainspring, and firing pin rod.
 - (1) Rest head of cocking piece on a firm surface.
 - (2) Pull back firing pin sleeve.
 - (3) Remove striker.
 - (4) Remove firing pin sleeve, mainspring, and firing pin rod.
- f. Remove extractor by turning it to the right and pushing forward.
- g. Strip the magazine.
 - (1) Turn rifle upside down.
 - (2) Insert pointed object in the hole in the rear of

the floor plate to depress the spring catch.

(3) Pull spring back toward the trigger guard.

(4) Remove the spring and magazine follower from top of magazine.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Reassemble Weapon Within 4 Minutes.

a. Reassemble magazine:

(1) Engage front end of floor plate with front end of magazine opening.

(2) Push magazine toward receiver.

(3) Push magazine forward until the spring catch engages.

b. Replace extractor:

(1) Hold bolt handle up in left hand.

(2) Align extractor collar lug with safety lock on the bolt.

(3) Insert the extractor collar lug in its undercut in the extractor.

(4) Push extractor until tongue comes in contact with bolt face.

(5) Press extractor hook against a rigid surface to spring it into its groove in the bolt.

d. Replace striker, firing pin sleeve:

(1) Move safety down and to the left.

(2) Assemble firing pin rod and bolt sleeve.

(3) Place cocking piece against a solid surface.

- (4) Draw back the firing pin sleeve and attach the striker.
 - (5) Cock firing pin before screwing bolt on.
 - (a) Press striker point against a wooden surface.
 - (b) Force cocking piece back.
 - (c) Engage safety lock.
 - d. Replace assembled bolt sleeve in bolt and screw bolt sleeve until bolt sleeve lock engages.
 - e. Replace bolt.
 - (1) Turn cutoff to center notch.
 - (2) Insert bolt in its guide in the receiver.
 - (3) Push down magazine follower.
 - (4) Push bolt forward to seat it.
 - f. Turn safety lock and cutoff down to the left and press trigger.
6. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)
7. Perform Function Check Within 10 Seconds.
- a. Pull bolt handle rear and push it forward to cock weapon.
 - b. Turn safety lock thumb piece to the right as far as it will go. (You can see the word "SAFE.")
 - c. Press trigger (hammer should not go forward).
 - d. Turn safety lock thumbpiece to the left as far as it will go. (Fire position.)
 - e. Press trigger. (Hammer should fall.)

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0108

IDENTIFY AND DESCRIBE SELECTED MACHINEGUNS

CONDITIONS:

You will be given a 15-second view of each selected machinegun or a 15-second view of a photograph, illustration, or model of each selected machinegun.

STANDARDS:

1. Correctly Identify Each Machinegun.
2. Describe Each Machinegun (2 minutes per gun).
 - a. Country of origin.
 - b. Military designation.
 - c. Cartridge type.
 - d. Type of feed.
 - e. Locking system.
 - f. System of operation.
 - g. Maximum effective range.

PERFORMANCE MEASURES:

1. Identify The Caliber .50 M-2 HB. (See fig. 1.)
 - a. Country of origin: USA.
 - b. Military designation: caliber .50 HB M2.
 - c. Cartridge type: caliber .50.
 - d. Type of feed: 100-round belt.
 - e. Locking system: rising breechlock.
 - f. System of operation: recoil selective fire.

g. Maximum effective range: 1,830 meters.

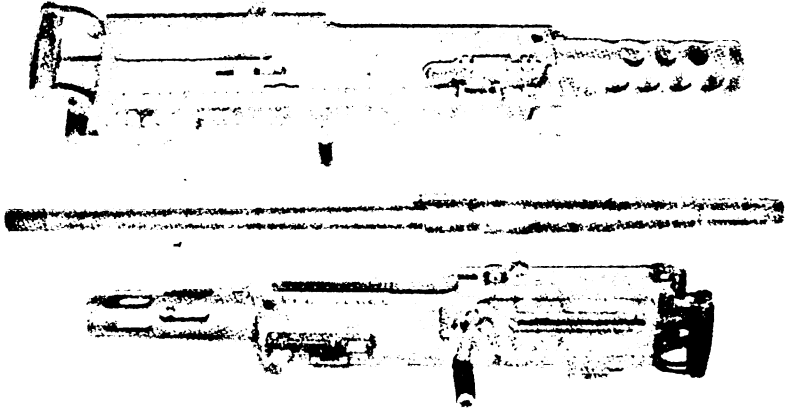


Figure 1

2. Identify The M.A.G. 58. (See fig. 2.)

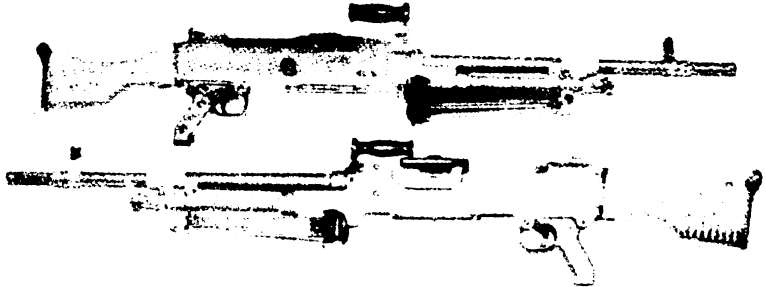


Figure 2

- a. Country of origin: Belgium.
- b. Military designation: M.A.G. 58 machinegun.
- c. Cartridge type: 7.62 NATO
- d. Type of feed: 100-round B.
- e. Locking system: lowering bolt
- f. System of operation: gas (blast).

g. Maximum effective range: 1,100 meters.

3. Identify The M1919A6. (See fig. 3.)

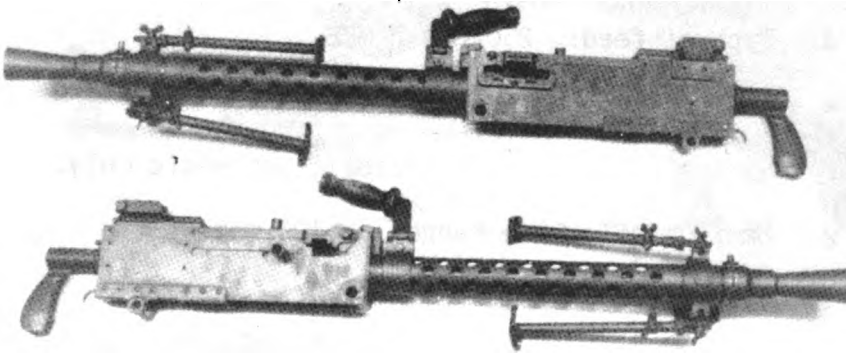


Figure 3

a. Country of origin: USA.

b. Military designation: M1919A6 machinegun.

c. Cartridge type: caliber .30.

d. Type of feed: 250-round MLB.

e. Locking system: rising breechlock.

f. System of operation: recoil w/gas assist, automatic only.

g. Maximum effective range: 1,100 meters.

4. Identify The MG-3. (See fig. 4.)

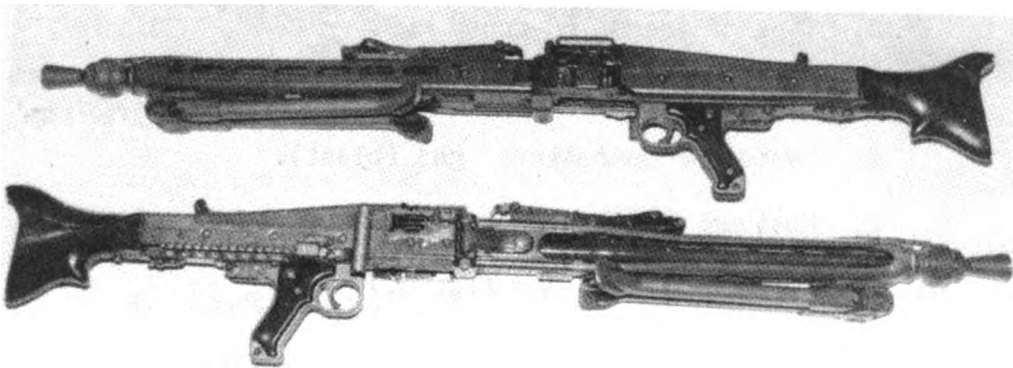


Figure 4

- a. Country of origin: West Germany.
 - b. Military designation: MG-3.
 - c. Cartridge type: 7.62 NATO.
 - d. Type of feed: 250-round MLB.
 - e. Locking system: roller.
 - f. System of operation: recoil, automatic only.
 - g. Maximum effective range: 1,100 meters.
5. Identify The DSHK M-38/46. (See fig. 5.)

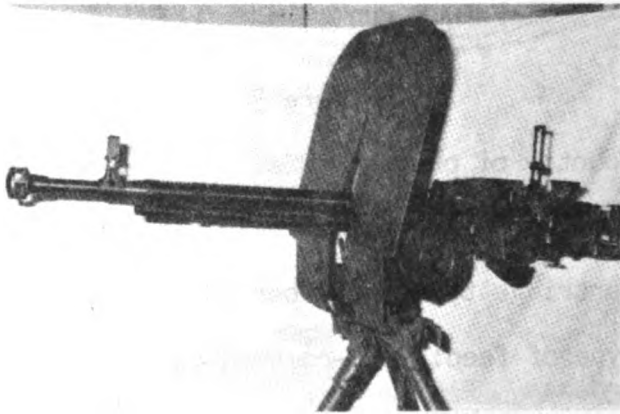


Figure 5

- a. Country of origin: USSR.
 - b. Military designation: DSHK machinegun.
 - c. Cartridge type: 12.7 x 108mm.
 - d. Type of feed: 50-round MLB.
 - e. Locking system: butterfly.
 - f. System of operation: gas (blast).
 - g. Maximum effective range: 2,000 meters.
6. Identify The RPD. (See fig. 6.)

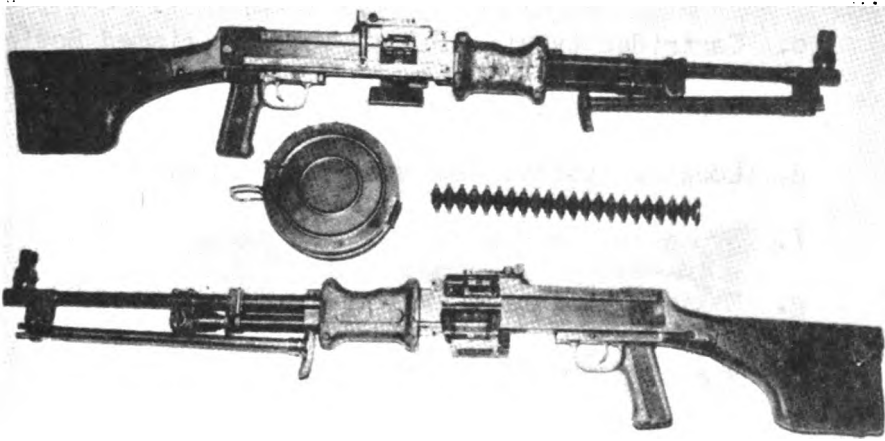


Figure 6

- a. Country of origin: USSR.
 - b. Military designation: RPD light machinegun.
 - c. Cartridge type: 7.62 x 39mm M1943 Soviet.
 - d. Type of feed: two 50-round belts in a 100-round drum.
 - e. Locking system: butterfly.
 - f. System of operation: gas (blast).
 - g. Maximum effective range: 800 meters.
7. Identify The SGMB. (See fig. 7.)

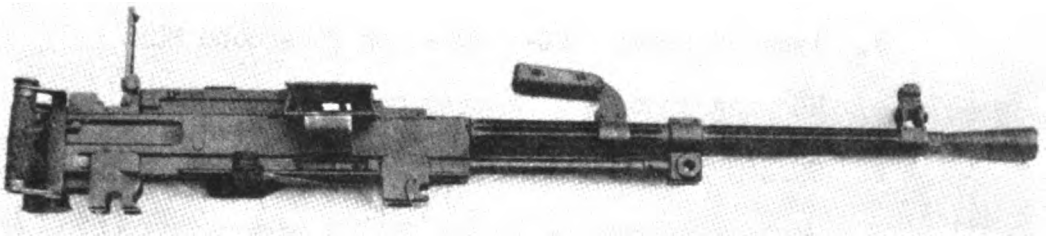


Figure 7

- a. Country of origin: USSR.
- b. Military designation: SGMB machinegun.

- c. Cartridge type: 7.62 x 54mm long rimmed Soviet.
 - d. Type of feed: 250-round MLB.
 - e. Locking system: swinging bolt lock.
 - f. System of operation: gas (blast).
 - g. Maximum effective range: 1,100 meters.
8. Identify The PK. (See fig. 8.)

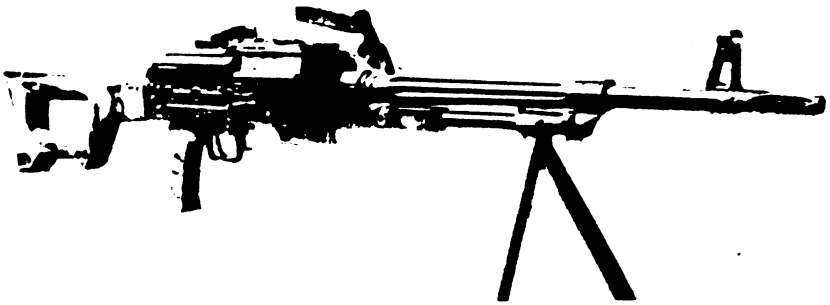


Figure 8

- a. Country of origin: USSR.
 - b. Military designation: PK machinegun.
 - c. Cartridge type: 7.62 x 54R rimmed Soviet.
 - d. Type of feed: 100-, 200-, or 250-round MLB.
 - e. Locking system: rotating bolt.
 - f. System of operation: gas (blast).
 - g. Maximum effective range: 1,100 meters.
9. Identify The M60. (See fig. 9.)

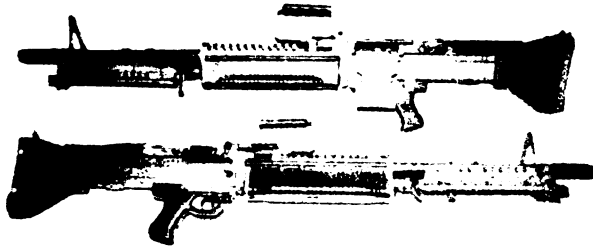


Figure 9

- a. Country of origin: USA.
 - b. Military designation: M60 machinegun.
 - c. Cartridge type: 7.62mm NATO.
 - d. Type of feed: 100-round MLB.
 - e. Locking system: rotating bolt.
 - f. System of operation: gas (tappet).
 - g. Maximum effective range: 1,100 meters.
10. Identify The RP-46. (See fig. 10.)

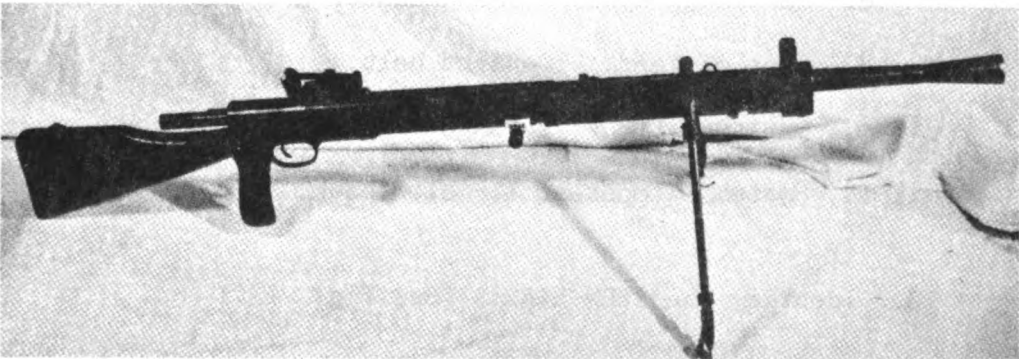


Figure 10

- a. Country of origin: USSR.
 - b. Military designation: RP-46 machinegun.
 - c. Cartridge type: 7.62 x 54R rimmed Soviet.
 - d. Type of feed: 250-round MLB or 47-round pan.
 - e. Locking system: butterfly.
 - f. System of operation: gas (blast).
 - g. Maximum effective range: 1,100 meters.
11. Identify The MK19. (See fig. 11.)

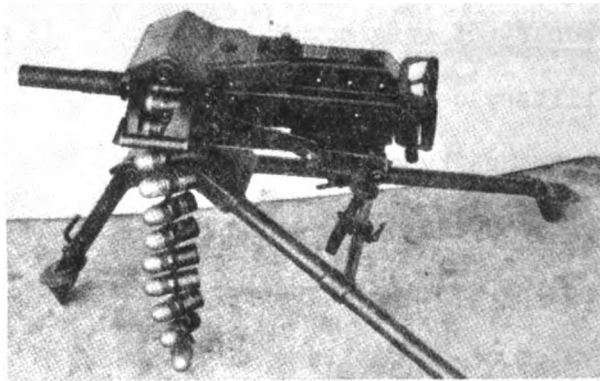


Figure 11

- a. Country of origin: USA.
 - b. Military designation: MK19.
 - c. Cartridge type: 40mm grenade.
 - d. Type of feed: 50-round belt.
 - e. Maximum effective range: 3,100 meters.
 - f. System of operation: blow back.
12. Identify the BREN L4A2. (See fig. 12.)

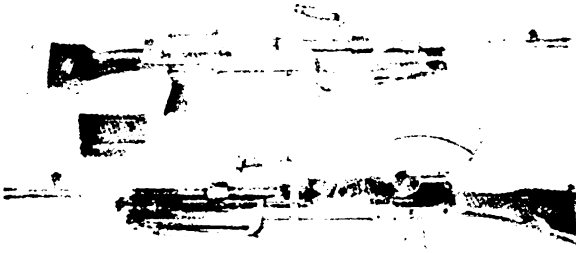


Figure 12

- a. Country of origin: Britan
- b. Military designation: BREN light machinegun.
- c. Cartridge type: 7.62mm NATO.
- d. Type of feed: 30-round box magazine.
- e. Locking system: rising breechlock.
- f. System of operation: gas (blast), selective fire.
- g. Maximum effective range: 460 meters.

REFERENCE:

TEC Lesson 011-331-0109, Maintain a Soviet 7.62mm Light Machinegun (RPD)

331-915-0109

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR A SOVIET RPD LIGHT MACHINEGUN

CONDITIONS:

You will be given an RPD, 49 rounds of linked 7.62 x 39mm M1943 ammunition, and an inert round.

TANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Adjust, load, and fire weapon.
 - a. Adjust weapon:
 - (1) Rear sight elevation. (See fig. 1.)

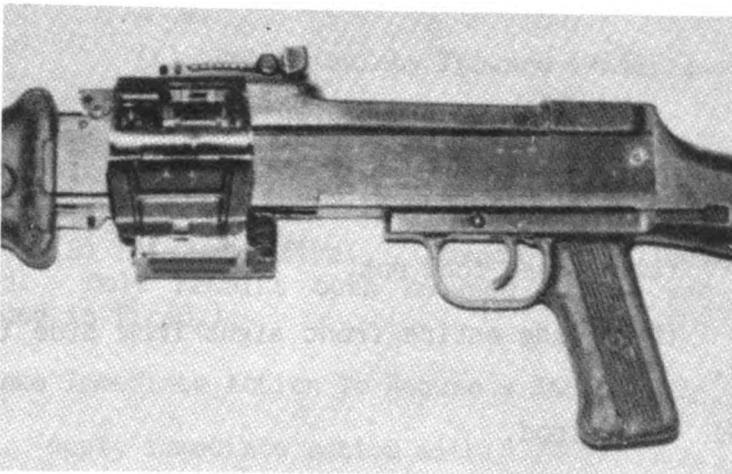


Figure 1

(a) Press slide locks and move bar along sight.

(b) Align top of bar with line below number corresponding to specified range in hundreds of meters (200-800 meters).

(2) Rear sight windage is adjusted by turning windage knob. (See fig. 1.)

(3) Front sight elevation is adjusted by screwing front sight post in or out. (See fig. 2.)

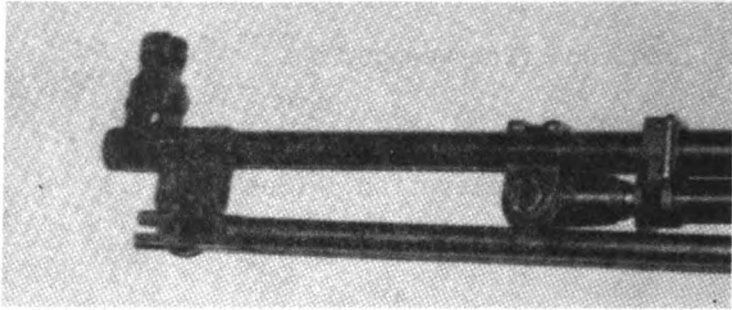


Figure 2

(4) Front sight windage. (See fig. 2.)

(a) Loosen lock nut.

(b) Slide entire front sight from side to side, as necessary.

(5) Open bipod.

(a) Unsnap bipod clip.

(b) Swing legs forward until they spring open and lock.

b. Load.

(1) Load drum within 20 seconds.

(a) Turn drum lock.

(b) Open cover.

(c) Coil belt so that lead tab is on the outside.

(d) Insert belt into drum so that only lead belt protrudes from drum.

(e) Close cover.

(2) Load weapon within 40 seconds.

(a) Slide drum onto holding bracket from the rear.

(b) Turn drum lock down.

(c) Insert lead tab of belt into the feedway from left to right.

(d) Pull sharply (to the right) on the lead tab to seat the first round in the holding pawl.

(e) Pull operating handle back until it is caught by the sear; return it forward.

(f) Rotate safety forward ("SAFE").

c. Fire within 5 seconds.

(1) Rotate safety to rear ("FIRE").

(2) Aim and fire. (Weapon fires until trigger is released. Bolt remains open between bursts and closed after last round is fired.)

2. Take Immediate Action To Reduce a Stoppage.

a. Apply immediate action within 10 seconds.

(1) Pull operating handle back.

(2) Inspect for ejected rounds, brass, or links.

(3) Push operating handle forward.

(4) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the MAG 58, task number 331-915-0111, with the following exception: When correcting sluggish operation due to loss of operating power, adjust gas regulator:

(1) Pry gas regulator catch out of engagement with its groove.

(2) Move catch to next higher numbered groove.

3. Unload And Clear Weapon Within 30 seconds.

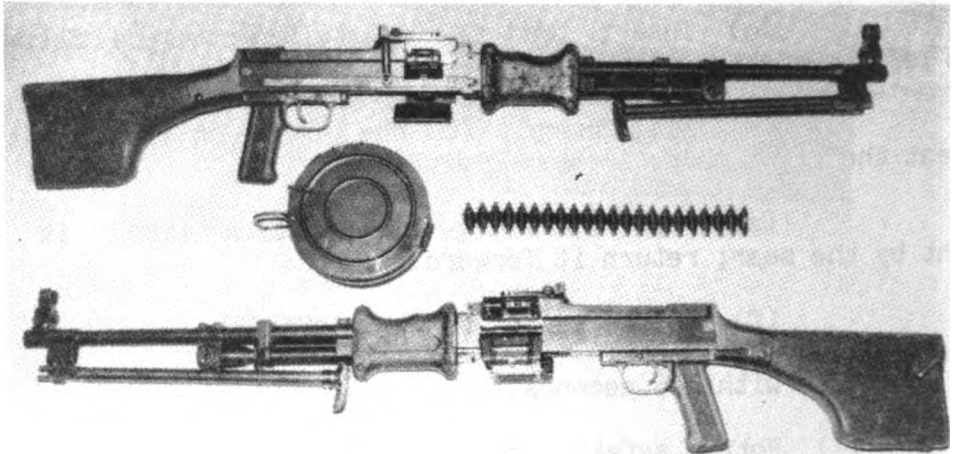


Figure 3

a. Unload.

(1) Pull operating handle to rear.

(2) Rotate safety forward ("SAFE").

(3) Push cover catch forward and open feed cover.

(4) Draw belt to left and feed back into drum so that only feed tab protrudes.

b. Clear weapon.

(1) Inspect chamber receiver and feedway for obstruction.

(2) Close cover.

(3) Turn drum lock.

(4) Slide drum to rear and remove.

(5) Rotate safety to rear (fire position).

(6) Hold operating handle, pull trigger, and ease the bolt and slide forward.

REFERENCE:

EC Lesson 011-331-0109, Maintain a Soviet 7.62mm Light Machinegun (RPD)

331-915-0110

MAINTAIN A SOVIET RPD LIGHT MACHINEGUN AND AMMUNITION

CONDITIONS:

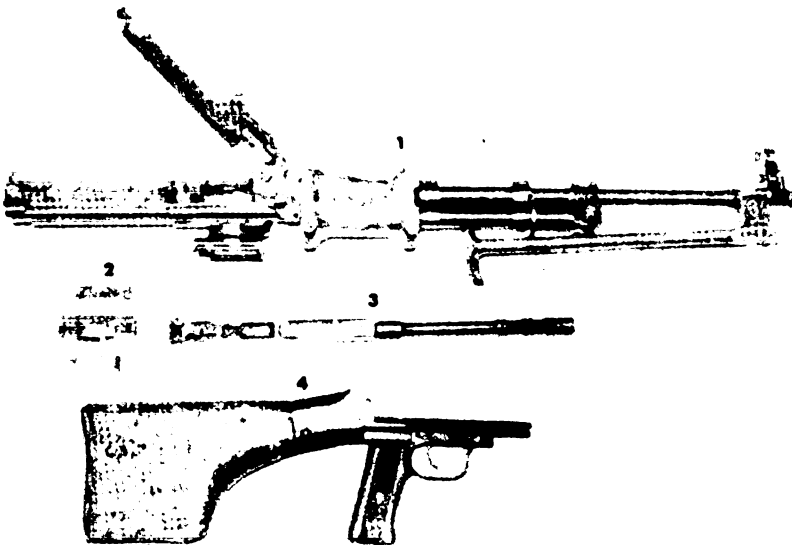
You will be given an RPD; 100 rounds of linked 7.62 x 39mm M1943 ammunition; a cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 1 Minute.



MG RPD SOVIET

- | | |
|-------------------------|--------------------------|
| 1. Barrel & Receiver | 3. Operating Slide |
| 2. Bolt With Lock Flaps | 4. Stock & Trigger Group |

Figure 1

- a. Clear weapon within 10 seconds. (Do not close top cover.)
- b. Press takedown pin at rear of receiver.
- c. Slide butt end trigger group out to rear.
- d. Pull operating handle back.
- e. Remove slide and bolt from receiver.
- f. Separate bolt from slide by lifting it straight up (locking flaps will fall free).

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 3 Minutes.

- a. Assemble locking flaps to bolt.
- b. Place bolt onto slide so that flaps fit into slide cam cuts.
- c. Push bolt and locking flaps forward.
- d. Insert slide into receiver so that slide rails fit into receiver grooves.
- e. Slide butt and trigger group onto receiver. (Insure driving spring rod is seated in its recess at end of slide.)
- f. Press takedown pin into place.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Perform Function Check Within 10 Seconds.

- a. Pull operating handle back until caught and return it forward.
- b. Rotate safety forward ("SAFE").
- c. Depress trigger (should not fire).
- d. Rotate safety to rear ("FIRE").

e. Hold operating handle with one hand and pull trigger with the other. Slide bolt forward slowly.

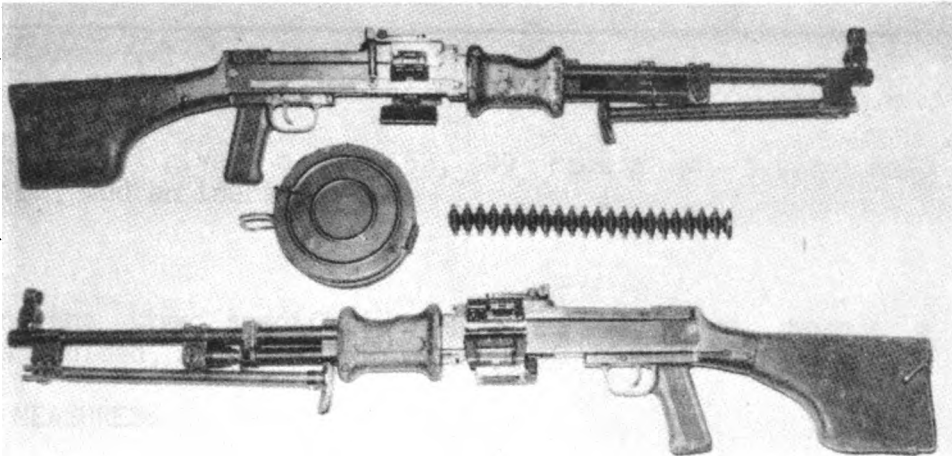


Figure 2

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman
 TEC Lesson 011-331-0110, Operate a Soviet RPD 7.62mm Light
 Machinegun

331-915-0111

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR A BELGIAN MAG 58 MACHINEGUN

CONDITIONS:

You will be given a MAG 58, 49 rounds of 7.62mm NATO ammunition, and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.
 - a. Adjust weapon.
 - (1) Adjust rear sight. (See fig. 1.)

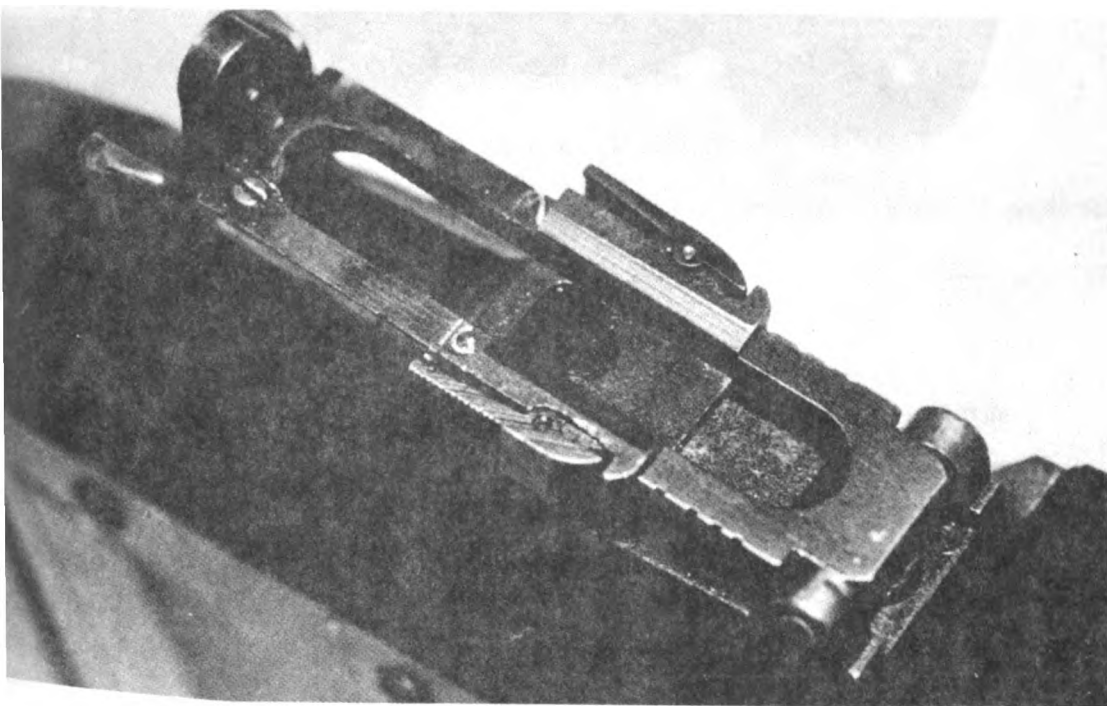


Figure 1

- (a) Lift rear sight leaf.
 - (b) Press slide catches.
 - (c) Move slide until it aligns with designated range in hundreds of meters (200-1,100 meters).
 - (d) When leaf is folded, the battle sight is for ranges up to 200 meters.
- (2) Adjust gas regulator under left side of sleeve around barrel. (See fig. 2.)

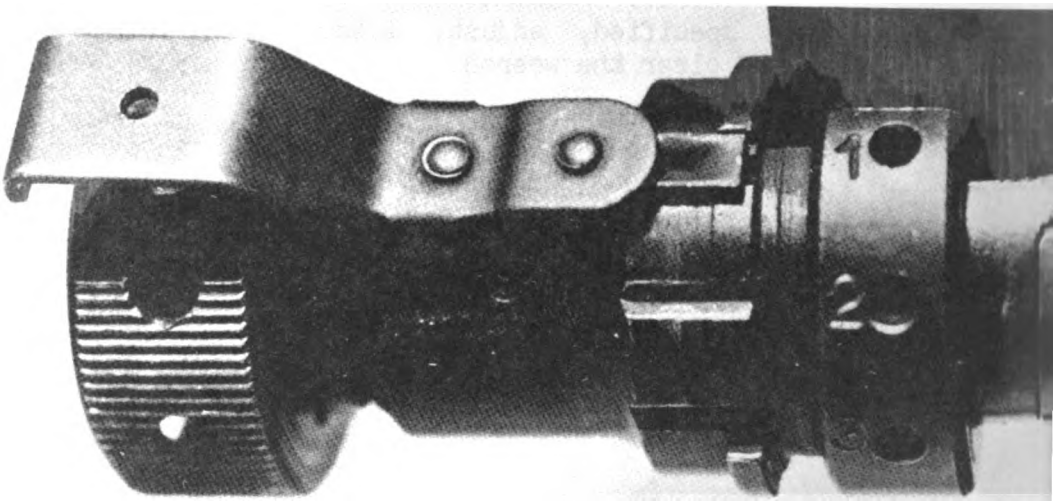


Figure 2

- (a) For normal firing--650 rounds per minute--set regulator at number "1."
 - (b) For maximum rate of fire, rotate regulator until it is closed against its stop.
 - (c) For malfunctions due to fouling, set regulator at number "2" or "3."
- (3) Lower bipod into position.
- b. Load weapon within 60 seconds.

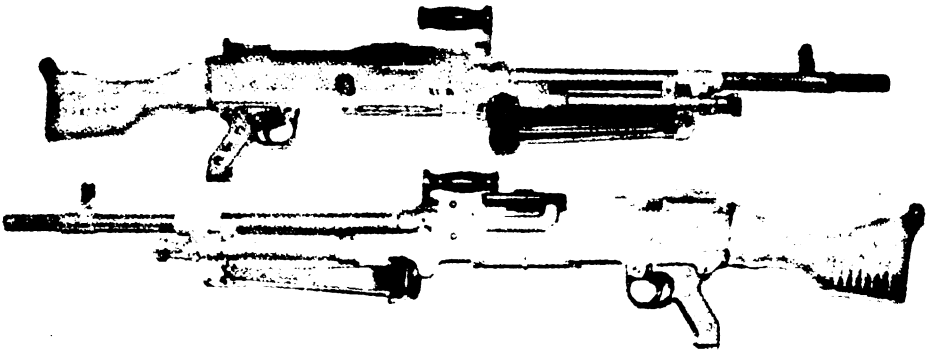


Figure 3

forward. (1) Pull operating handle rearward, then push

(2) Press safety to the right ("SAFE") position.

(3) Press cover catches and open cover.

(4) Place loaded ammunition belt on feed tray.

(a) Open side of links should be down.

(b) First cartridge should rest against cartridge stop.

(5) Close cover.

c. Fire weapon within 5 seconds.

(1) Press safety to the left ("FIRE").

(2) Aim and fire.

(a) Six-round bursts give best results.

(b) Bolt remains open between bursts.

(c) Bolt remains closed when last round is fired.

2. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 10 seconds.

- (1) Pause 5 seconds.
- (2) Pull operating handle to rear.
- (3) Check for ejected rounds, brass, links, or other obstructions.
- (4) Push operating handle forward.
- (5) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows.

- (1) If weapon fails to feed, check for
 - (a) Defective feed pawl or feed pawl spring.
(Return to higher echelon.)
 - (b) Defective front and rear cartridge guides.
(Return to higher echelon.)
 - (c) Defective cover latch. (Return to higher echelon.)
 - (d) Defective feed lever cam spring. (Return to higher echelon.)
 - (e) Defective cam roller. (Return to higher echelon.)
 - (f) No lubrication. (Apply lubricant.)
 - (g) Defective ammunition or link. (Replace.)
 - (h) Ammunition belt improperly installed.
(Reverse belt with open portion of link down.)
 - (i) Damaged or weak operating rod spring.
(Replace.)
 - (j) Obstruction in receiver.
(Remove:
 1. Wait 5 minutes, in case of cookoff.

2. Pull bolt to rear.

3. Hold cleaning rod about 6 inches from handle; insert it into muzzle.

4. Push case from chamber with cleaning rod. (CAUTION: Do not strike bolt when rod is pushed through bore. This may cause damage.)

(2) If ammunition fails to chamber, check for:

(a) Ruptured cartridge case.

(Remove:

1. Wait 5 minutes, in case of cookoff.

2. Raise cover; pull bolt to rear.

3. Place cartridge extractor in T-slot of bolt as if it were a cartridge.

4. Align cartridge extractor with the bore and make sure that it is firmly seated in the T-slot.

5. Let bolt go forward; this forces the extractor through the ruptured case.

6. Pull bolt to rear.

7. Remove ruptured case and extractor.)

(b) Caked carbon in receiver. (Remove carbon.)

(c) Damaged round. (Remove.)

(3) If weapon fails to fire, check for:

(a) Damaged or broken firing pin. (Replace.)

(b) Defective ammunition. (Replace.)

(c) Dirty chamber. (Clean.)

(d) Damaged or weak operating rod spring. (Replace.)

(4) If ammunition fails to extract, check for broken extractor or spring. (Replace.)

(5) If ammunition fails to eject, check for frozen or damaged ejector or ejector spring. (Clean or replace.)

(6) If weapon fails to cock, check for:

(a) Broken sear. (Return to higher echelon.)

(b) Worn operating rod sear notch. (Return to higher echelon.)

(c) Obstruction in receiver. (Remove obstruction.)

3. If Sluggish Or Runaway Gun Conditions Occur, Proceed As Follows:

a. Sluggish operation (may be caused by excessive friction due to dirt, carbon, improper lubrication, or burred parts).

(1) Clean and lubricate weapon.

(2) Replace any burred parts.

b. Runaway gun (weapon fires immediately upon loading or continues to fire after trigger is released) caused by defective trigger mechanisms, worn sear notches, or worn firing pin shoulders.

(1) Hold fire on target until feeding stops or ammunition is expended. Long ammunition belts may be stopped by twisting belt to stop feeding or by raising the cover to stop feeding action.

(2) Disassemble weapon; attempt to locate problem.

(3) Replace any necessary parts.

4. Unload And Clear Weapon Within 30 Seconds.

a. Press catch and open cover.

b. Lift belt out of feedtray.

c. Inspect chamber and close cover.

d. Pull operating handle to rear and hold it.

e. Pull trigger and ease operating handle forward.

REFERENCE:

TEC Lesson 011-331-0111, Operate a Belgian MAG58 Machinegun

331-915-0112

 MAINTAIN A BELGIAN MAG58 MACHINEGUN AND AMMUNITION

CONDITIONS:

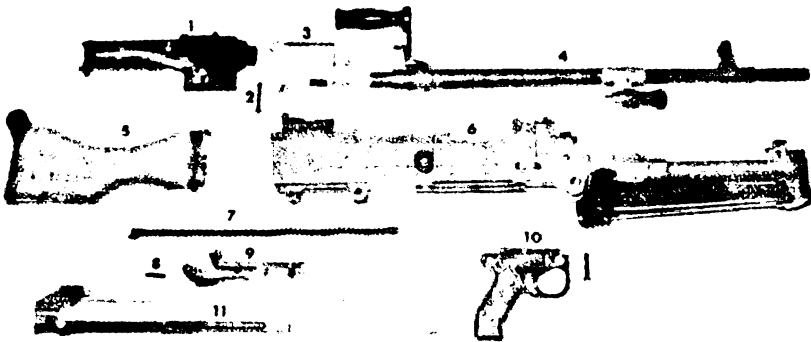
You will be given a MAG 58; 100 rounds of linked 7.62mm NATO ammunition; a cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, linseed oil, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes. (See fig. 1.)



MG MAG58 BELGIUM

- | | |
|-------------------|--------------------------|
| 1. Feed Cover | 7. Recoil Spring & Guide |
| 2. Cover Pin | 8. Bolt Link Pin |
| 3. Feed Tray | 9. Bolt & Bolt Lock |
| 4. Barrel | 10. Trigger Group & Pin |
| 5. Stock | 11. Operating Slide |
| 6. Receiver Group | |

Figure 1

- a. Clear weapon within 10 seconds.
 - b. Remove barrel:
 - (1) Press barrel nut lock and rotate carrying handle to vertical position.
 - (2) Pull barrel forward out of gun.
 - c. Press cover catches and open cover.
 - d. Depress butt catch and slide butt upward until it is removed.
 - e. Remove driving spring:
 - (1) Press end of driving spring guide forward, then upward, and ease it to rear.
 - (2) Remove driving spring.
 - f. Remove and separate bolt from slide:
 - (1) With and behind receiver rear opening, pull operating handle rearward.
 - (2) Remove bolt and slide.
 - (3) Push link pin out and separate bolt from slide.
3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4, task number 331-915-0074.)
4. Reassemble Weapon Within 4 Minutes.
- a. Reassemble and replace bolt and slide:
 - (1) Align holes in link.
 - (2) Slide and insert link pin.
 - (3) Start piston into receiver.
 - (4) Press bolt lock against bolt and pull bolt as far forward as possible from slide.
 - (5) Align bolt with its guides and push bolt and slide forward.
 - b. Replace driving spring:

(1) Insert driving spring into slide and pull trigger.

(2) Push forward (with spring) slide and bolt.

c. Press driving rod forward until it is seated in slot at bottom of receiver.

d. Replace butt:

(1) Slide butt into vertical slot in rear of receiver until it locks in place.

(2) Pull operating handle to rear.

(3) Close cover, hold handle, pull trigger, and ease handle forward.

e. Align rear end of band with hole in receiver and seat of barrel.

f. Rotate barrel handle down to right until barrel nut locks into place.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105.)

6. Perform Function Check Within 10 Seconds.

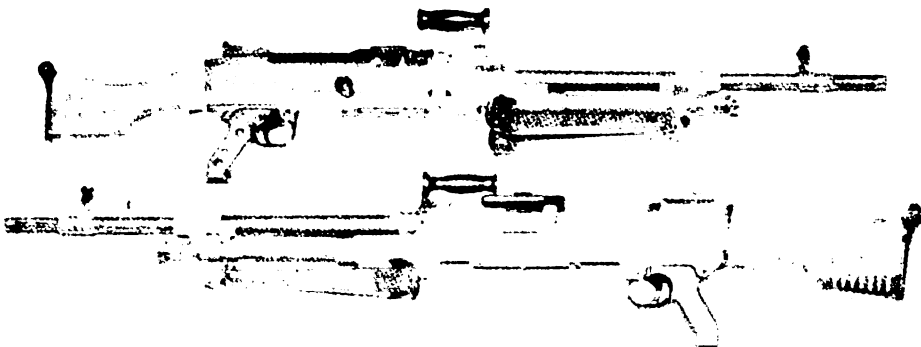


Figure 2

- a. Pull operating handle fully rearward.
- b. Press safety to right "SAFE."
- c. Depress trigger (bolt should not go forward).
- d. Press safety to left "FIRE."
- e. Depress trigger and allow bolt to go forward under your control.

REFERENCE:

TEC Lesson 011-331-0112, Maintain a Belgian MAG58 Machinegun

071-313-0008

PERFORM A DETAILED DISASSEMBLY AND REASSEMBLY
OF AN AMERICAN CALIBER .50 HB M2 MACHINEGUN

CONDITIONS:

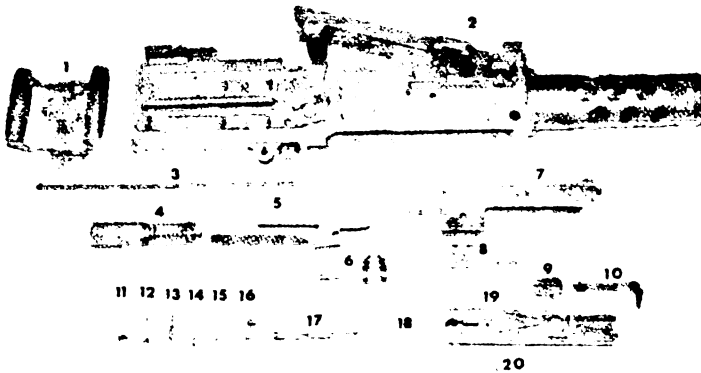
You will be given an American caliber .50 HB M2 machinegun.

STANDARDS:

Within 40 minutes, disassemble and reassemble the bolt, barrel, and buffer, barrel extension, cover, and receiver groups.

PERFORMANCE MEASURES:

1. Field Strip Weapon. (Follow procedures prescribed in task number 071-313-3451, FM 7-11B1/2.)
2. Identify Weapon Parts. (See figs. 1 and 2.)



MG CAL50 USA

- | | |
|--------------------------------|---------------------------|
| 1. Back Plate Group | 11. Cocking Lever Pin |
| 2. Receiver | 12. Cocking Lever |
| 3. Driving Spring Rod Assembly | 13. Searslide |
| 4. Barrel Buffer Assembly | 14. Accelerator Stop Lock |
| 5. Barrel Buffer Body Group | 15. Accelerator Stop |
| 6. Accelerator & Pin | 16. Sear's Sear Spring |
| 7. Barrel Extension | 17. Firing Extension |
| 8. Breech Block & Pin | 18. Firing Pin |
| 9. Bolt Switch | 19. Bolt |
| 10. Extractor Assembly | 20. Bolt Stud |

Figure 1

3. Perform Detailed Disassembly Within 4 Minutes. (See fig. 2.)

a. Disassemble bolt group:

(1) Rotate extractor upward and remove it from bolt, freeing bolt switch.

NOTE: Do not remove ejector and ejector spring.

(2) Lift out bolt switch.

(3) Pull out bolt switch stud (some models have staked bolt switch studs which cannot be removed).

(4) Rotate top of cocking lever toward rear of bolt.

(5) Remove cocking lever pin.

(6) Lift out cocking lever.

(7) Remove sear stop and pin.

NOTE: Before removing sear stop and pin (on some models, the accelerator stop and lock), press down on the top of sear to release firing pin.

(a) Use thin end of cocking lever to pry sear stop (accelerator stop lock) out of its groove in bolt and into center recess.

(b) Turn bolt over and drift sear stop pin free from engagement with firing pin spring.

(c) Shake out accelerator stop lock.

(d) With bolt upside down, lift sear stop and pin from bolt.

NOTE: If pin does not come out freely, place thin end of cocking lever under sear stop against pin and pry pin out of bolt.

(e) Drift out accelerator stop.

(8) Press down on sear and withdraw sear slide (withdraw square end first).

(9) Insert thin end of cocking lever between coils of sear spring.

(10) Lift out sear and remove sear spring (leave spring on cocking lever).

(11) Raise front end of bolt and allow firing pin extension assembly and firing pin to fall into your hand.

(12) Separate firing pin from its extension.

b. Disassemble barrel buffer body group:

(1) Turn barrel buffer body group upside down.

(2) Pry up on barrel buffer tube lock latch (disengaging latch).

(3) Move lock body to rear.

(4) Pry up latch end of assembly so that lug clears barrel buffer body and at the same time press down on front of lock body to keep it from springing out.

(5) Turn accelerator back to push barrel buffer tube lock assembly out of its slot.

NOTE: The barrel buffer body spring lock is normally staked and cannot be removed.

(6) Drift accelerator pin out and remove accelerator.

c. Disassemble barrel extension group:

(1) Drift lockpin out and remove breech lock from bottom of extension group.

NOTE: The top of the breech lock may have a wide, single-beveled edge or a double-beveled edge, and top may be flat or contain a large slot.

(2) Do not remove barrel locking spring (it is staked to barrel extension).

d. Disassemble cover group:

(1) Remove cover pin.

(a) With cover closed, remove cotter pin and drift cover pin out of receiver.

(b) Remove cover from trunnion block by unlatching and rotating it up and forward.

(2) Place cover group (top down) on a flat, sturdy surface, with latch end to the front and hinged end toward you.

(3) Remove belt feed lever and lockpin.

(a) Remove belt feed cover pin (cotter pin).

(b) Push belt feed lever to right until its toe end (engaging slide) is in line with slot in cover.

(c) Lift belt feed lever off its pivot stud.

CAUTION: Insure shoulder headless pin and spring do not fly out.

(4) Remove shoulder headless pin and spring from their seat in side of belt feed lever.

(5) Disassemble belt feed slide.

(a) Remove belt feed slide.

(b) Drift belt feed pawl pin out (maintain pressure on belt feed pawl to prevent spring from flying out).

(c) Slowly release pressure and remove belt feed pawl and arm.

(d) Disengage belt feed pawl arm from belt feed pawl.

(e) Remove belt feed pawl spring.

(6) Remove cover latch spring.

(a) Pry hooked end of spring out of its groove in cover.

(b) Shift spring leftward until it rests on cover extractor spring.

(c) Press down on cover latch spring and slide it away from cover latch (make sure it rides on top of cover extractor spring).

(d) When enlarged hole in spring meshes with cover latch spring stud, remove spring from its stud.

(7) Remove cover extractor spring.

(a) Press down on cover extractor spring.

(b) Pry end of spring out of its recess in cover extractor cam.

CAUTION: If not handled carefully, this spring can cause injury.

(c) Disengage opposite end of spring from cover extractor spring stud.

4. Perform Detailed Reassembly Within 6 Minutes.

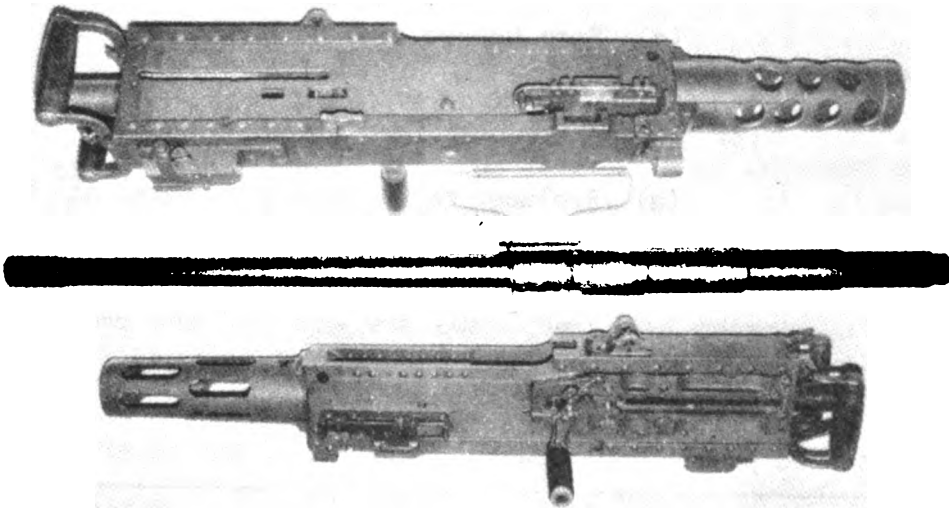


Figure 2.

a. Reassemble cover group:

(1) Replace cover extractor spring.

(a) Lay cover upside down on flat surface.

(b) Hook slotted end of spring under cover extractor stud so that its projection points towards its recess in cover extractor cam.

(c) CAREFULLY press down and seat spring projection in its recess in cover extractor cam.

(2) Replace cover latch spring.

(a) Place cover latch spring inside cover with enlarged hole meshing with cover latch spring stud (hooked end should be down and resting on cover extractor spring).

(b) Press down on cover latch spring and slide it toward the latch.

(c) Pry up on latch end of spring so that it rides up over projecting wing of cover latch.

(d) Snap hooked end of spring into its groove in cover.

(3) Reassemble belt feed slide.

(a) Replace belt feed pawl arm on belt feed pawl.

NOTE: There are two pins on each side of belt feed pawl. The larger belt feed pawl arm pin and the smaller is belt feed pawl arm locating pin.

(b) Place belt feed pawl arm over pins so that belt feed pawl arm is toward latch end of the cover.

NOTE: This method of assembly creates a left hand feed situation which is the method used except in rare cases.

(c) Place small end of belt feed pawl spring over belt feed pawl spring stud (inside belt feed slide).

(d) Place assembled pawl and arm over spring so that large end of spring is seated in pawl recess so that projecting oval of spring is away from belt feed pawl arm.

(e) Align pinholes in pawl, arm, and slide.

(f) Replace belt feed pawl pin, insuring pin is flush with sides of slide.

(g) Replace belt feed slide in its guideways so that belt feed pawl is to the left and arm is toward the latch.

(4) Seat shoulder headless pin and spring in their hole nearest belt feed lever lug.

(5) Replace belt feed lever and lock pin.

(a) Place belt feed lever over pivot stud so that lug is up and to the left.

(b) With thumb at either end of lever, press down and turn lever until shoulder headless pin is against inside of cover.

(c) Pivot lever until it is aligned with cover and slide slots.

(d) Press lever down as far as it will go.

(e) Move lug end all the way to the right.

(f) Maintain a downward pressure, and snap lug end of lever all the way to the left so that shoulder headless pin is properly positioned in cover.

(g) Replace lock pin (cotter pin) in pivot stud.

(h) Insure toe end of lever moves laterally in its slot without binding.

(6) Replace cover pin.

(a) Replace cover group on receiver by placing latch end of cover in position so that latch engages top plate.

(b) With heel of your hand, tap hinged end down into position.

(c) Align pin holes and replace cover pin.

(d) Insert cotter pin cover pin and spread ends.

b. Reassemble barrel extension group:

(1) Replace breech lock from bottom of barrel extension group (make sure that wide single or double beveled edge is up and to front).

(2) Insure hole for breech lockpin is toward bottom of barrel extension.

(3) Replace breech lockpin so that ends of pin are flush with barrel extension sides.

c. Reassemble barrel buffer body group.

(1) Replace accelerator with tips up and claws to the rear.

(2) Replace accelerator pin so that ends are flush with barrel buffer body group sides.

(3) Turn barrel buffer body upside down.

(4) Hold assembly against barrel buffer body, lug down.

(5) With thumb of one hand, press forward winged part into circular slot opening.

(6) With other hand, raise assembly rear enough to lift lug over buffer body.

(7) Push assembly forward until rear winged part snaps into slot circular opening.

d. Reassemble bolt group:

(1) Reassemble firing pin and extension assembly.

(a) Engage rear end of firing pin in its seating groove in front end of firing pin extension assembly.

(b) Insert firing pin and extension assembly in bolt, striker first, sear notch down.

(c) Push extension assembly into bolt and tilt front end down until striker protrudes its aperture in bolt face.

(2) Reassemble sear spring and sear.

(a) Replace sear spring (using cocking lever wedged on spring during disassembly).

(b) Insert sear into its slot, stud up and notch to the front.

(c) Insure sear spring is properly seated in its recess in bolt and bottom of sear.

(3) Press down on sear and replace sear slide in its guideways (square end must be to the left if gun is to be fired by sideplate trigger).

(4) Press down on sear pin head and force it in place.

(5) Place sear stop into its groove in bolt.

(6) Replace cocking lever and pin.

(a) Replace cocking lever, rounded nose down and to the rear (top of cocking lever should also be rearward).

(b) Replace cocking lever pin from left side of bolt.

NOTE: Test for correct assembly by rotating top of cocking lever toward bolt front, cocking firing pin; then rotate cocking lever to rear and depress sear (this should release firing pin).

(7) Replace bolt switch stud with small end up.

(8) Place bolt switch over bolt switch stud, so that left side of switch lines up with "L" (wider portion of bolt switch will be toward the front).

(9) With extractor arm reticle, replace extractor stud in bolt extractor pivot hole.

(10) Rotate extractor forward (insure collar is engaged in its slot on bolt).

5. Reassemble Weapon. (Follow procedures prescribed in task number 071-313-3451, FM 7-11B1/2.)

REFERENCES:

FM 23-65, Browning Machinegun, Caliber .50 HB, M2 (chap 2, sec IV, pages 24-67), C1, 19 May 72.

FM 7-11B1/2 Soldier's Manual, 11B, Infantryman

331-915-0114

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE,
UNLOAD, AND CLEAR A BRITISH BREN L4A2 LIGHT MACHINEGUN

CONDITIONS:

You will be given an L4A2 and one magazine containing 27 rounds of 7.62 NATO ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.

a. Adjust.

(1) Adjust sight by turning knurled knob on leaf top clockwise or counterclockwise to move slide until index mark aligns with specified range in hundreds of meters (100 meters). (See fig. 1.)

(2) Adjust bipod.

(a) Engage bipod legs by swinging them forward until they spring apart and lock into place.

(b) Disengage bipod legs by pressing them together and swinging them to rear until they engage with receiver.

b. Load within 10 seconds:

(1) Slide cover forward.

(2) Tilt magazine forward.

(3) Engage magazine lug with the recess in the front of the magazine opening.

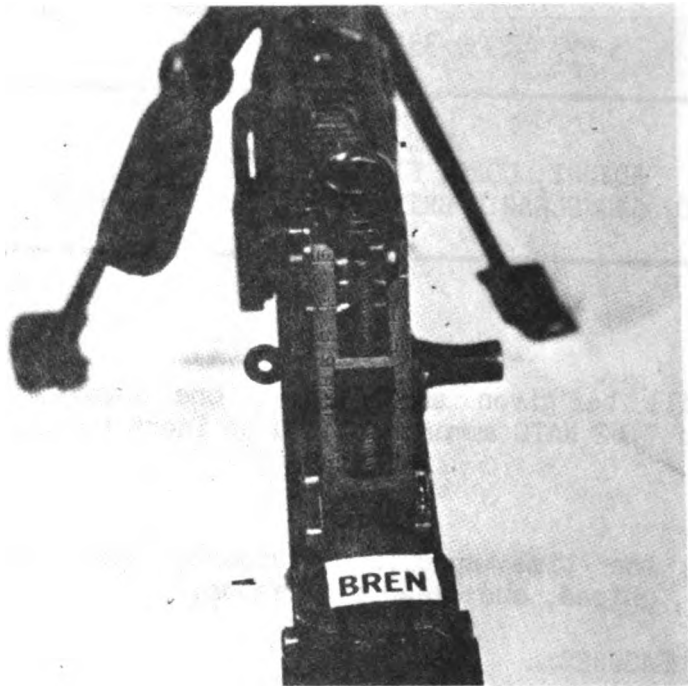


Figure 1.

(4) Rock magazine back until magazine catch snaps into place.

(5) Rotate the selector to its middle ("SAFE") position.

(6) Pull operating handle back, then push it forward.

c. Fire within 5 seconds.

(1) Set selector.

(a) Rotate selector forward for automatic fire.

(b) Rotate selector rearward for semiautomatic fire.

(2) Aim and fire (bolt will be to the rear when last round is fired).

2. Take Immediate Action Within 5 Seconds To Reduce a Stoppage. (Follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.)

3. Unload And Clear Weapon Within 10 Seconds.

a. Unload:

- (1) Set selector to middle ("SAFE") position.
- (2) Remove magazine:
 - (a) Press magazine catch toward magazine.
 - (b) Press magazine forward and rotate it out of

weapon.

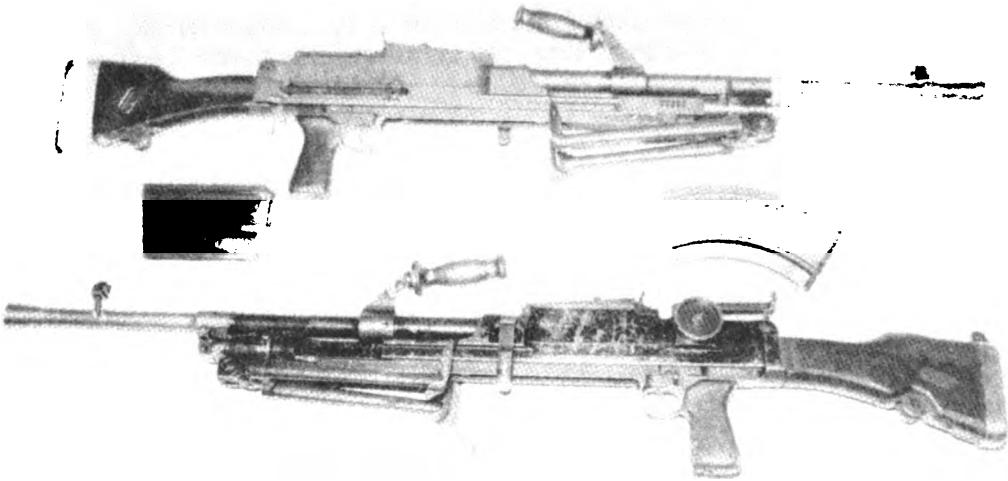


Figure 2.

b. Clear:

- (1) Pull operating handle to rear.
- (2) Inspect magazine opening for rounds.
- (3) Move selector from safe.

- (4) Hold operating handle, press trigger, and ease handle forward.
- (5) Slide magazine cover to rear.
- (6) Slide ejection cover to rear.
- (7) Set selector on safe.

REFERENCE:

None.

331-915-0115

MAINTAIN A BRITISH BREN L4A2 LIGHT MACHINEGUN,
MAGAZINE, AND AMMUNITION

CONDITIONS:

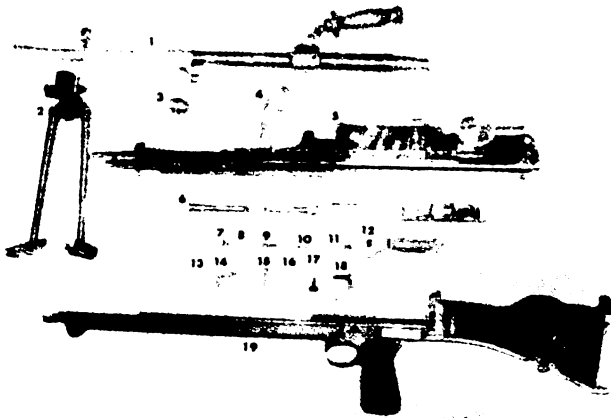
You will be given an L4A2; five rounds of 7.62mm NATO ammunition; a magazine, cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify weapon parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 3 Minutes. (See fig. 1.)



MG BREN L4A2 BRITAN

- | | |
|-------------------------------|----------------------------|
| 1. Barrel | 10. Firing Pin Spring |
| 2. Bipod | 11. Firing Pin |
| 3. Gas Regulator | 12. Breech lock or Bolt |
| 4. Barrel Nut | 13. Trigger Pin |
| 5. Upper Receiver | 14. Trigger and Disconnect |
| 6. Operating Slide and Piston | 15. Sear Pin |
| 7. Extractor | 16. Sear |
| 8. Extractor Plunger | 17. Sear Spring & Plunger |
| 9. Extractor Spring | 18. Selector |
| | 19. Lower Receiver |

Figure 1.

a. Clear weapon within 10 seconds leaving dust covers open, selector on safe, and magazine out.

b. Remove body locking pin:

(1) Push pin with a pointed object from left side of receiver.

(2) Withdraw pin from right side of receiver.

c. Slide butt group and trigger mechanism to rear out of receiver.

d. Remove piston and breechblock from butt group:

(1) Grasp rear of receiver with left hand.

(2) Pull back butt group with right hand.

(3) Pull return spring rod to the left.

(4) Pull operating handle back rapidly.

(5) Remove piston and breechblock from receiver.

(a) Remove piston.

(b) Slide breechblock to rear and lift to disengage its front end claws with piston grooves; remove it.

e. Remove barrel:

(1) Press latch (inside of barrel lock lever) to release lever from receiver.

(2) Rotate lever up as far as possible.

(3) Pull barrel forward off gun, using the carrying handle.

f. Remove butt group.

(1) Grasp rear of receiver with left hand.

(2) Pull back on butt with right hand to remove butt group.

g. Remove barrel unit:

(1) Lift barrel nut catch.

(2) Push down small stud in front of magazine opening cover.

(3) Remove barrel nut vertically.

h. Remove bipod:

(1) Lift front end of weapon.

(2) Pull left leg of bipod forward.

(3) Slide bipod sleeve off front end of gas cylinder.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0053.)

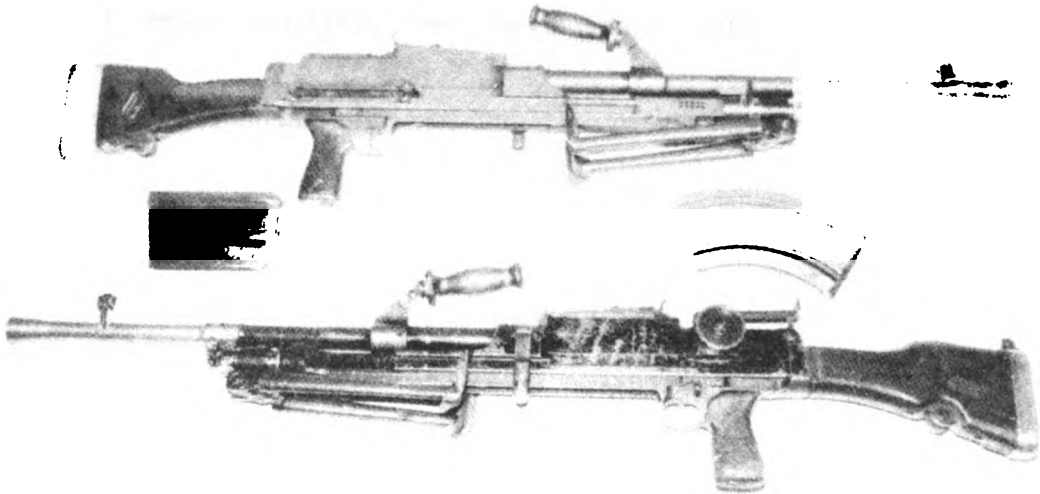


Figure 2.

5. Reassemble Weapon Within 7 Minutes. (See fig. 1.)

a. Replace bipod.

- (1) Lift front end of weapon.
- (2) Push left leg of bipod to rear.
- (3) Slide bipod sleeve on front end of gas cylinder.
- b. Replace barrel nut:
 - (1) Lock barrel nut catch.
 - (2) Engage catch on rib in body of receiver.
- c. Replace breechblock on piston:
 - (1) Slide claws of breechblock into piston grooves as far as possible.
 - (2) Allow tail end of breechblock to drop.
- d. Replace breechblock and piston in butt group:
 - (1) Insure breechblock is forward.
 - (2) Insure breechblock and piston are pushed into rear of receiver.
 - (3) Push breechblock and piston forward into butt group.
- e. Replace butt group and trigger mechanism to rear into receiver:
 - (1) Engage return spring rod in its recess in the end of the piston.
 - (2) Push butt group forward in receiver.
- f. Replace barrel.
 - (1) Force in spring catch on barrel side.
 - (2) Insert barrel.

NOTE: Gas cylinder must enter the gas cylinder tube. Turn the barrel, lock lever down, until it is secured in place.
--

NOTE: Barrel can be removed with bolt to rear or forward.

- g. Replace body locking pin.

NOTE: Insert from right side of receiver.

6. Maintain Ammunition. (Follow procedures prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 20 Seconds. (See fig. 2.)

- a. Rotate selector to its middle position "SAFE".
- b. Pull operating handle back, then push it forward.
- c. Press trigger (bolt should not go forward).
- d. Rotate selector to rear (semiautomatic fire).
- e. Press trigger (bolt should go forward).
- f. Rotate selector forward (automatic fire).

g. Keeping trigger pressed, pull operating handle to rear and return it forward (bolt should go forward also).

REFERENCE:

FM 7-11B1/2, Soldiers Manual, 11B, Infantryman

331-915-0116

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE,
UNLOAD, AND CLEAR A GERMAN MG3 MACHINEGUN

CONDITIONS:

You will be given an MG3, 49 rounds of 7.62 NATO linked ammunition, and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon:

a. Adjust:

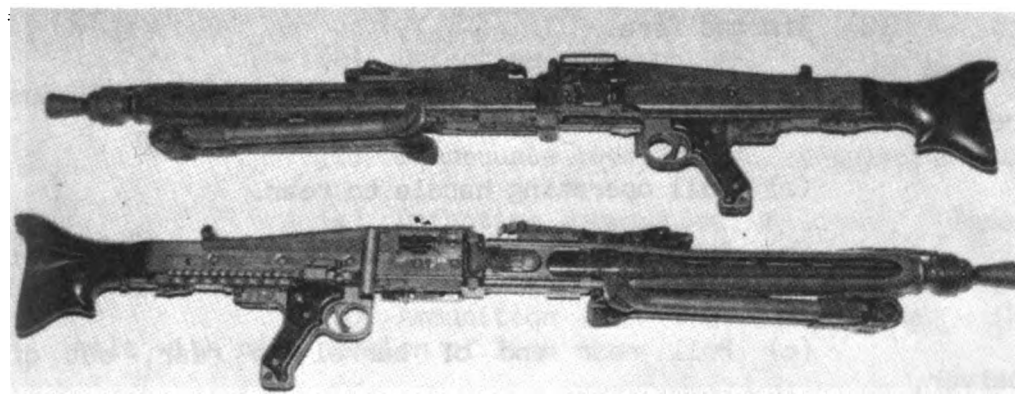


Figure 1.

(1) Adjust rear sight by pressing in on the slide catch and moving the ramp sight to the specified range (200-1,200 meters) within 10 seconds.

(2) Lower bipod.

b. Load with M13 linked (i.e., M60 MG) belt ammunition within 60 seconds:

(1) Pull operating handle to rear, then push it forward.

(2) Press safety to left (safe).

(3) Feed ammunition belt (with links on top and cartridges downward):

(a) Push feed tab through belt feed opening to cartridge stop.

(b) If there is no feed tab, open the cover, place first cartridge against stop, and close cover.

c. Fire within 5 seconds.

(1) Push safety to right "FIRE".

(2) Aim and fire.

(3) Replace barrel after 150 rounds of continuous fire.

(a) Pull operating handle to rear.

(b) Push barrel cover lock forward until barrel cover swings out.

(c) Pull rear end of barrel to rear, out of receiver.

(d) Place cool barrel into jacket as far as possible.

(e) Close barrel cover.

(f) When barrel cover locks, push operating handle forward and resume fire.

2. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 10 seconds:

- (1) Wait 5 seconds.
- (2) Pull operating handle to rear.
- (3) Observe for ejected round, brass, or links.
- (4) Push operating handle forward.
- (5) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows:

(1) If weapon fails to feed, check for

(a) Defective feed pawl or feed pawl spring.
(Return to higher echelon.)

(b) Defective front and rear cartridge guides.
(Return to higher echelon.)

(c) Defective cover latch. (Return to higher echelon.)

(d) Defective feed lever cam spring. (Return to higher echelon.)

(e) Defective cam roller. (Return to higher echelon.)

(f) Inadequate lubrication. (Apply lubricant.)

(g) Defective ammunition or link. (Insert new ammunition or link.)

(h) Ammunition belt installed wrong. (Reverse belt with open portion of link down.)

(i) Damaged or weakened operating rod spring.
(Replace spring.)

(j) Obstruction in receiver. (Remove obstruction:

1. Wait 5 minutes (in case of cookoff).
2. Pull bolt to rear.

3. Holding cleaning rod about 6 inches from the handle, insert it into muzzle.

4. Force the case from chamber with cleaning rod. (CAUTION: Care should be taken not to damage bolt face by striking it when rod is pushed through bore.)

(2) If ammunition fails to chamber, check for

(a) Ruptured cartridge case. (Remove cartridge case:

1. Wait 5 minutes (in case of cookoff).

2. Raise cover and pull bolt to rear.

3. Place cartridge extractor in T-slot of bolt as if it were a cartridge.

4. Align cartridge extractor with the bore and insure that it is firm in the T-slot.

5. Let bolt go forward (this forces extractor through ruptured case).

6. Pull bolt to rear.

7. Remove ruptured case and extractor.)

(b) Caked carbon in receiver. (Remove carbon.)

(c) Damaged round. (Remove round.)

(3) If weapon fails to fire, check for

(a) Damaged or broken firing pin. (Replace firing pin.)

(b) Faulty ammunition. (Replace ammunition.)

(c) Dirty chamber. (Clean or change barrel.)

(d) Weakened or damaged operating rod drive spring. (Replace spring.)

(4) If ammunition fails to extract, check for broken extractor or spring. (Replace.)

(5) If ammunition fails to eject, check for frozen or damaged ejector or ejector spring. (Clean or replace.)

(6) If weapon fails to cock, check for

(a) Broken sear. (Return to higher echelon.)

(b) Worn operating rod sear notch. (Return to higher echelon.)

(c) Obstruction in receiver. (Clear.)

3. If Sluggish Or Runaway Gun Conditions Occur, Proceed As Follows.

a. If weapon operates sluggishly (due to excessive friction caused by dirt or carbon, improper lubrication, or burred parts):

(1) Clean and lubricate weapon.

(2) Inspect for and replace any burred parts as necessary.

b. If runaway condition occurs (weapon fires immediately upon loading or continues firing upon loading or continues firing upon releasing trigger due to defective trigger mechanism, worn sear notch, worn firing pin shoulders):

(1) Hold fire on target until feeding stops or ammunition is expended (in cases of long ammunition belts, firing may be stopped by twisting belt to stop the feeding or by raising cover to stop feeding action).

(2) Disassemble weapon and locate problem.

(3) Replace parts as necessary.

4. Unload And Clear Weapon Within 30 Seconds:

a. Unload:

(1) Pull operating handle to rear.

(2) Press safety to left "SAFE" position.

(3) Open cover.

(4) Lift belt and any empty links from feed tray.

b. Clear:

(1) Remove and visually inspect barrel.

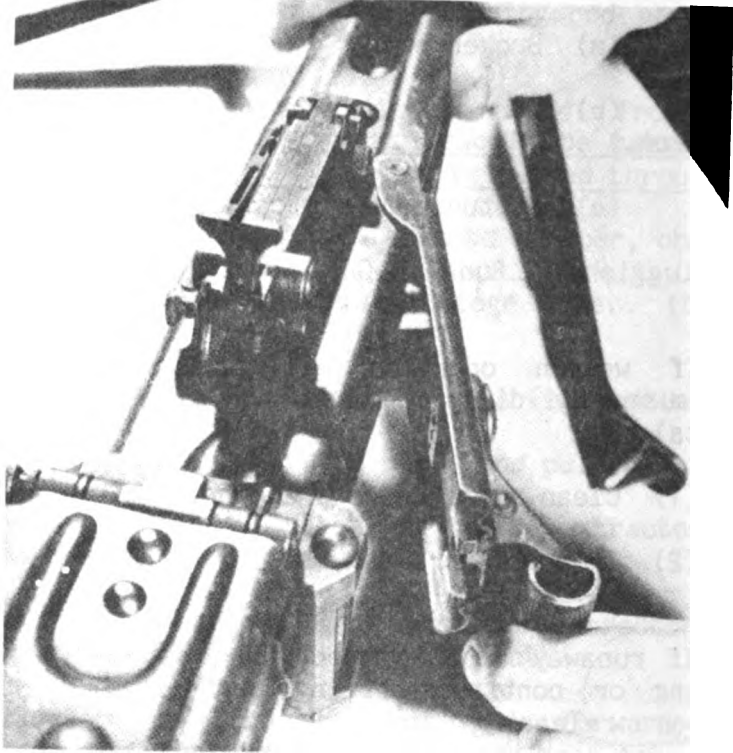


Figure 2

- (2) Disassemble weapon and locate problem.
- (3) Replace parts as necessary.
- (4) Close cover.
- (5) Press safety to right "FIRE" position.
- (6) Hold operating handle and pull trigger while easing bolt forward.
- (7) Close ejection port cover under receiver by pressing it against ejection post.
- (8) Reset safety to safe position.
- (9) Fold down front and rear sights.

REFERENCE:

None

331-915-0117

 MAINTAIN A GERMAN MG3 MACHINEGUN AND AMMUNITION

CONDITIONS:

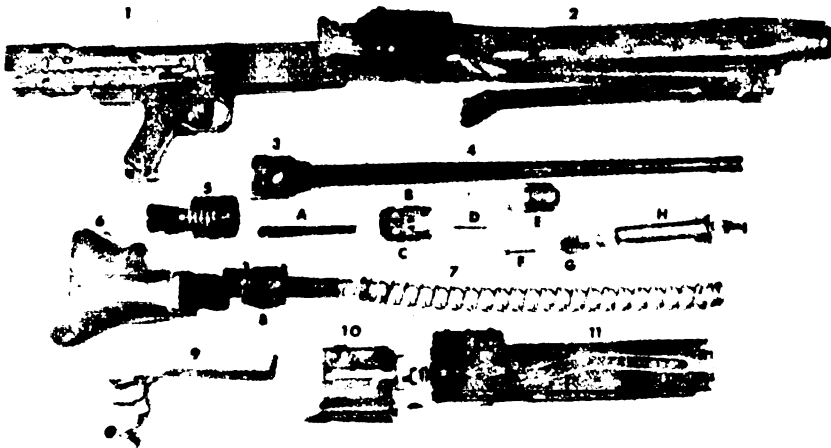
You will be given an MG3; 100 rounds of linked caliber 7.62 NATO ammunition; a wire bore brush and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes. (See fig. 1.)



WEST GERMAN MG3 MACHINEGUN

BOLT

- | | | | |
|---------------------|---------------------|---------------------|----------------|
| 1. RECEIVER | 7. DRIVING SPRING | A. EJECTOR ACTUATOR | F. EJECTOR |
| 2. BARREL COVER | 8. BUFFER | B. BOLT HEAD | G. LOCKING CAM |
| 3. BARREL EXTENSION | 9. OPERATING HANDLE | C. LOCKING ROLLERS | H. BOLT BODY |
| 4. BARREL | 10. FEED TRAY | D. FIRING PIN | I. FEED ROLLER |
| 5. RECOIL BOOSTER | 11. FEED COVER | E. BUFFER | |
| 6. BUTT STOCK | | | |

Figure 1

a. Clear weapon within 10 seconds and leave safety in "SAFE" position, cover open.

b. Remove driving spring:

(1) Press butt catch and rotate the butt while pushing it against the driving spring.

(2) Ease butt away from receiver.

(3) Pull driving spring out of receiver.

c. Remove bolt:

(1) With hand over opening at rear of receiver, give operating handle a sharp jerk rearward and then push it forward (moving bolt to rear of receiver).

(2) Pull bolt out of receiver.

d. Disassemble bolt:

(1) Pull locking rollers to left side of bolt head.

(2) Twist bolt head counterclockwise until it is free of bolt body.

(3) Remove ejector actuator, locking cam, and firing pin from disassembled bolt.

e. Remove recoil boosters:

(1) Lift recoil booster latch.

(2) Unscrew recoil booster and remove it.

f. Remove barrel.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 4 Minutes.

a. Replace the barrel.

b. Screw recoil booster back into receiver.

c. Insert flat end of firing pin into locking cam.

d. Place locking cam into bolt head.

e. Slip ejector into bolt body.

NOTE: If bolt has internal spring and plunger, install these parts with the plunger toward the narrow end of the ejector actuator.

f. Place the bolt head over the bolt body and twist the bolt head so that the extractor is in line with the double projections on the bolt body.

g. Insert the assembled bolt into the receiver, extractor down.

h. Pull the trigger and push the bolt as far forward as possible.

i. Insert the driving spring into the receiver and use it to push the bolt forward.

j. Slip the buffer into the driving spring.

k. Hold the butt twisted to 90° and insert its threaded section into the receiver.

l. Rotate the butt until the butt catch snaps into place.

m. Close the cover.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Perform Function Check Within 10 Seconds. (See fig. 2.)

a. Pull operating handle to rear.

b. Push safety to "SAFE" position (left).

c. Depress trigger (bolt should not go forward).

d. Push safety to "FIRE" position (right).

e. Depress trigger while holding the operating handle and slide bolt forward slowly.

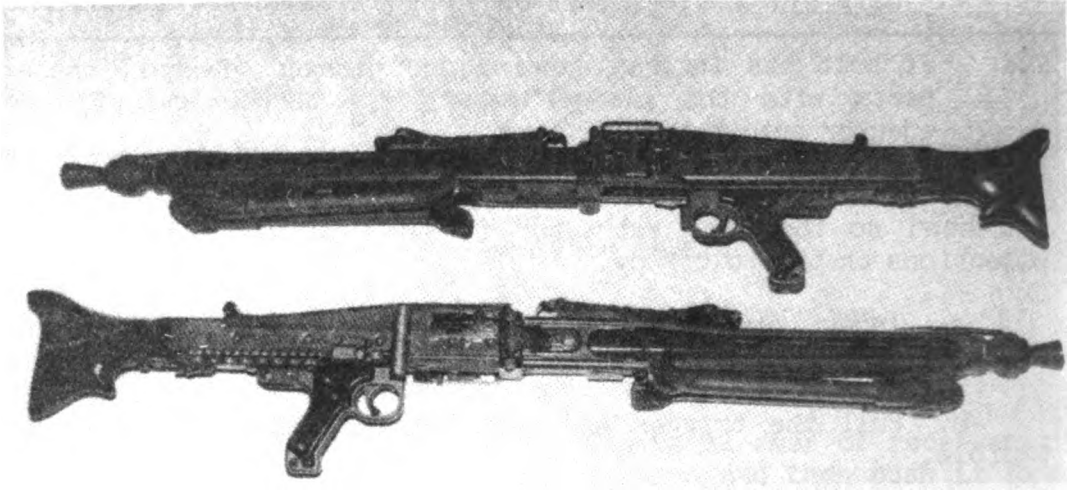


Figure 2

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0118

INSTALL AN AMERICAN MARK 19 MACHINEGUN ON GUN MOUNT

CONDITIONS:

You will be given an American MARK 19 machinegun and a caliber .50 tripod M3 gun mount.

STANDARDS:

Within 10 minutes, install gun on mount.

PERFORMANCE MEASURES:

1. Identify mount parts. (See figs. 1 thru 3.)



Figure 1

2. Install gun on mount. (See figs. 2 and 3.)
 - a. Place restraining pin in slots on mount cradle and reset bolts in depression at rear of cradle.
 - b. Insert quick release pin through cradle and mount.
 - c. Attach entrance end of ammunition chute to opening in feeder.

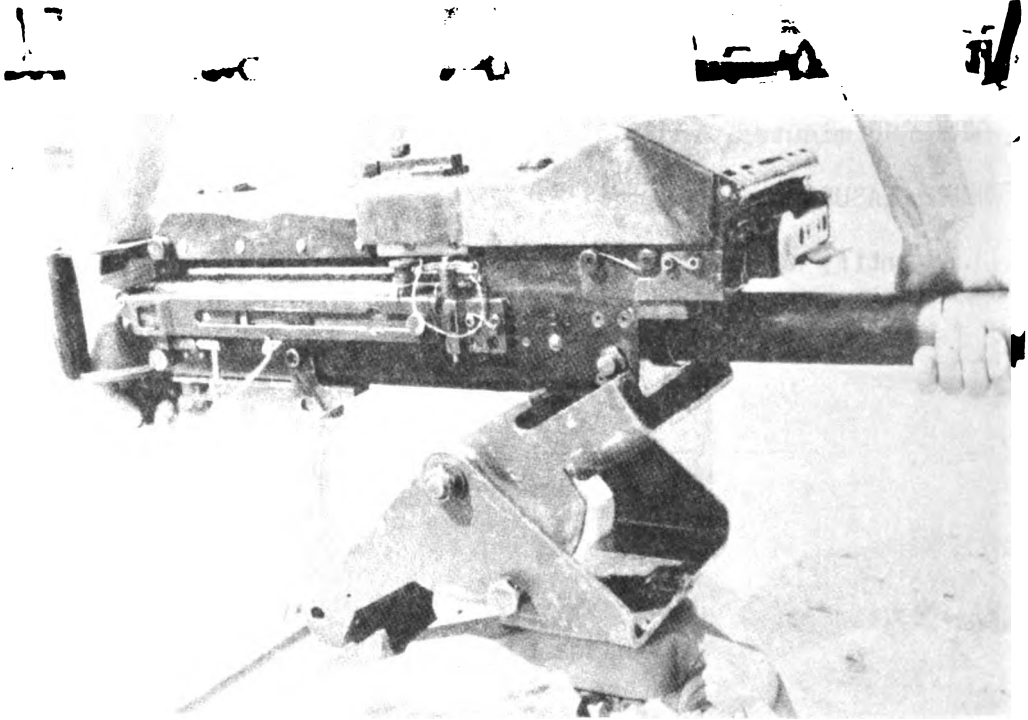


Figure 2

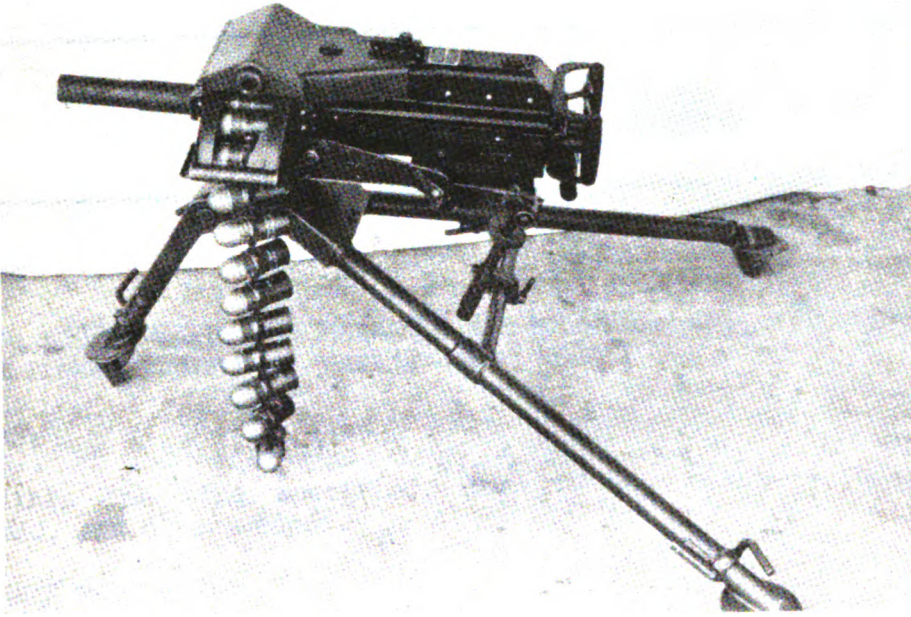


Figure 3

REFERENCE:

None

331-915-0119

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD,
AND CLEAR AN AMERICAN MARK 19 MACHINEGUN

CONDITIONS:

You will be given a Mark 19, an extractor tool, 49 rounds of 40mm linked ammunition, and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Load And Fire Weapon Within 30 Seconds.

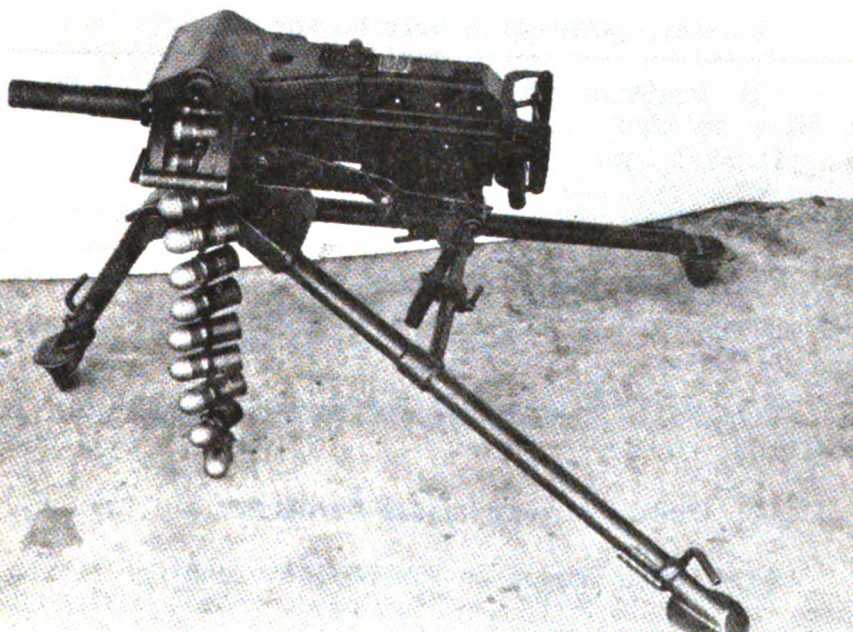


Figure 1

a. Load:

- (1) Unlatch and lift top cover assembly.
- (2) Connect ammunition chute or feed throat assembly to feeder (insure spring latches are secured).
- (3) Pull charging handle to rear.
- (4) Place on "SAFE."
- (5) Place female end of link into ammunition chute (or feed throat) assembly and draw rounds into feeder.
- (6) Push leading round over two sets of pawls in feeder until round is flush with backstop block on right side of receiver.
- (7) Release safety.
- (8) Depress trigger plate, allowing bolt to come forward into battery position.

WARNING: If rocker arm is not on pivot pin, weapon will not fire and may be dangerous. The bolt must be in battery to lock top cover properly. Do not attempt to close top cover with bolt to the rear.

(9) Position feeder slide flush with left edge of feeder guide so that rocker arm slot will engage pivot pin on top of horizontal cam.

- (10) Close top cover.
- (11) Place weapon on "SAFE."

b. Fire:

- (1) Pull charging handle to rear until bolt locks in sear position.
- (2) Push charging handle forward.
- (3) Place weapon on "SAFE" (to clear for firing.)
- (4) Release safety.
- (5) Hold weapon firmly by grips and aim.
- (6) Depress trigger plate to fire.

NOTE: Weapon will continue firing until trigger plate is released or ammunition is expended. After firing 300 to 500 rounds, clean barrel and chamber with bore brush, and lubricate bolt face to keep carbon from building up.

2. Take Immediate Action to Reduce A Stoppage.

a. Apply immediate action within 10 seconds:

- (1) Wait 5 seconds.
- (2) Pull charging handle to rear.
- (3) Observe for ejected rounds, brass, or links.
- (4) Push charging handle forward.
- (5) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows:

(1) If weapon misfires, check for

(a) Defective ammunition. (Examine round. If primer is deeply indented, round is defective and should be disposed of by submerging in water immediately.)

(b) Broken or defective firing pin. (Turn in for repair.)

(c) Improper bolt action. (Examine receiver and rails for any foreign matter or burrs that would interfere with movement of bolt.)

(d) Dirt in firing pin area. (Check firing pin area for dirt. Clean if necessary.)

(e) Broken or weak firing pin spring. (Turn in for repair.)

(2) If weapon fails to feed, check for

(a) Deformed or burred feeder chute. (Remove all burrs from feeder chute with crocus cloth or oilstone.)

(b) Excessive friction causing binding in feeder assembly. (Clean and lubricate feeder assembly.)

(c) Broken or jammed links in ammunition belt. (Remove any defective links or rounds.)

(d) Loose or broken components in feeder slide assembly. (Turn in for repair.)

(3) If weapon fails to extract next round (bolt remains in battery position with a spent cartridge case in chamber), turn in for repair.

(4) If weapon fails to eject, turn in for repair.

(5) If weapon has short recoil (bolt forward; live round on bolt face, round partially chambered or deformed), check for

(a) Dry rails. (Lubricate rails.)

(b) Binding in feeder or bolt. (Check feeder, rails, and bolt for broken, loose, or burred parts, or turn in for repair.)

(c) Dirty gun. (Clean gun.)

(d) Carbon ring in chamber. (Remove carbon ring using cleaning brush and bore cleaner.)

(e) Advance firing. (Adjust timing.)

(6) If sear fails to release during firing, check for: Safety stop engaged with trigger sear. Bolt will be on sear. (Clear weapon to release bolt. Hold the safety plunger rod on the fire position and depress the trigger plate. Adjust the 6-32 screw on lower left charger body for proper adjustment of charger safety plunger and safety plunger rod. Cycle weapon and check.)

NOTE: If none of the above reduces the stoppage, turn in for repair.
--

3. If Sluggish Or Runaway Gun Conditions Occur, Proceed As Follows.

a. If runaway gun conditions occur, check for:

(1) Defective trigger components or electric trigger control. (Turn in for repair.)

(2) Faulty sear mechanism. (Turn in for repair.)

(3) Advance firing. (Adjust timing.)

b. If weapon operates sluggishly, check for:

(1) Weak or broken driving or buffer springs. (Turn in for repair.)

(2) Improper bolt action. (Inspect bolt and interior of receiver for dirt, grit, or inadequate lubrication. Clean and lubricate if necessary.)

(3) Carbon buildup in bore. (Clean barrel with bore cleaner and brush.)

4. Unload And Clear Weapon Within 30 Seconds.

a. If ammunition is expended,

(1) Charge weapon and place on "SAFE."

(2) A spent shell casing will remain in firing position on bolt.

(3) Force spent shell casing off bolt face and out bottom of receiver (using extraction tool).

b. In ammunition is not expended,

(1) Lift top cover to expose remaining belted rounds. (Bolt will be to rear.)

(2) Place weapon on safe. (A live round will be in firing position on bolt.)

(3) Force live round off bolt face and out bottom of receiver (with extraction tool).

CAUTION: Be sure to catch round to prevent its falling.

c. Simultaneously depress backup and bottom pawls; slide belted rounds out of feeder.

d. Insure safety is not engaged.

e. Pull charging handle to rear until bolt locks in sear position.

f. Push charger forward.

g. Place weapon on safe.

REFERENCE:

None

3-507

331-915-0120

MAINTAIN AN AMERICAN MARK 19 MACHINEGUN,
MOUNT, AND AMMUNITION

CONDITIONS:

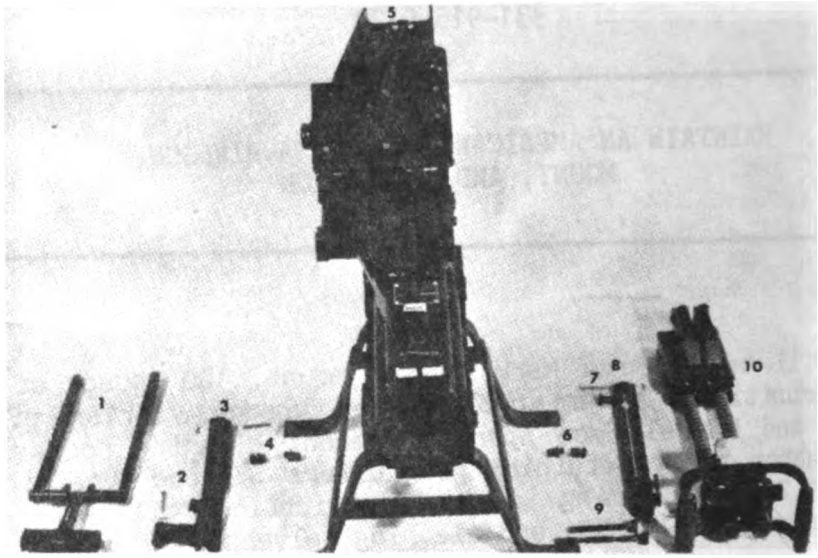
You will be given a Mark 19 and mount, 100 rounds of linked 40mm ammunition; a jam nut spanner wrench, firing pin plug wrench, and barrel face spanner wrench; cleaning rod assembly; an extractor tool; retaining ring pliers .38 and retaining ring pliers .70; a timing gauge; lubricating oil MIL-L-46000, cleaning base MIL-C-373, and cleaning solvent P-D0680.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 3 Minutes.
 - a. Clear weapon within 10 seconds.
 - b. Remove left and right side charging housing retaining pins.
 - c. Remove left and right side housings.
 - d. Remove housing studs.
 - e. Remove backplate retaining pins.
 - f. Pull bolt and backplate to rear and align bolt studs with disassembly notches.
 - g. Remove bolt studs.
 - h. Remove bolt and backplate assembly.



MG Mark 19

- | | |
|-----------------------------|--------------------------------|
| 1. Charger | 6. Bolt stud (RT) |
| 2. Left charger rail & pins | 7. Charger rail Lug (RT) |
| 3. Charger rail lug (LT) | 8. Charger rail (RT) |
| 4. Bolt stud (lt) | 9. Back plate pin Top & Bottom |
| 5. Barrel & receiver | 10. Bolt and back plate group |

Figure 1

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074, except DO NOT immerse bolt assembly in cleaning solvent since it will dilute grease in packed bearings.)

NOTE: Lubricate feeder assembly, bolt feed tray, and bolt rails prior to each firing.

4. Reassemble Weapon Within 7 Minutes.
- a. Insure cocking lever is all the way forward.
 - b. Replace bolt and backplate assembly.
 - c. Replace bolt studs.
 - d. Push bolt and backplate to front and align bolt studs with disassembly notches.
 - e. Replace backplate retaining pins.
 - f. Replace housing studs.
 - g. Replace left and right side of housings.

h. Replace left and right side charging housing retaining pins.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Maintain Mount. (Follow procedures prescribed for the Soviet SGMB machinegun, task number 331-915-0123.)

7. Perform Function Check Within 20 Seconds.

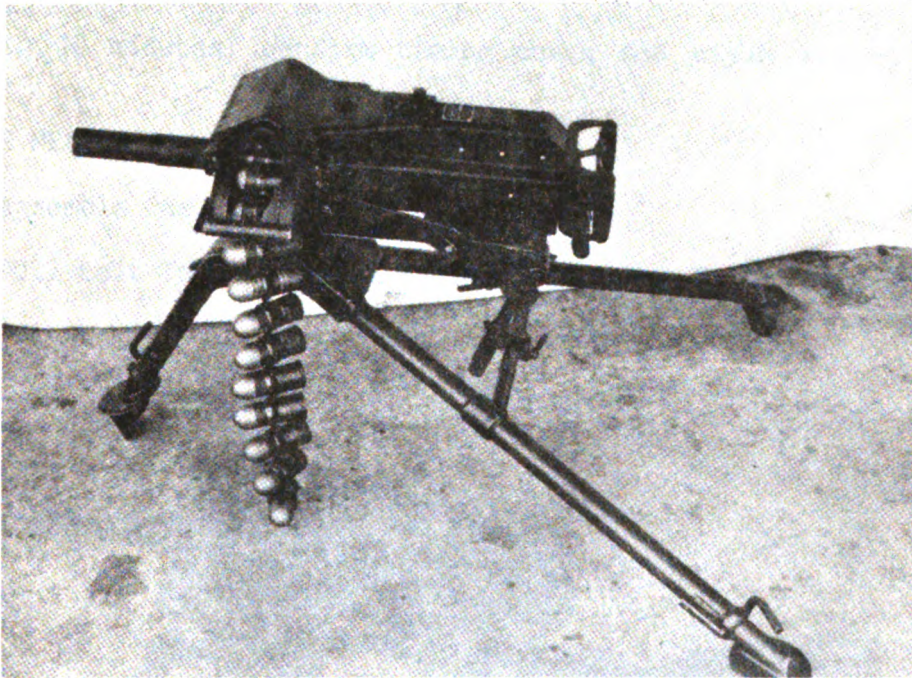


Figure 2

- a. Pull charging handle to rear and push it forward.
- b. Place safety on safe (red stripe must be hidden).
- c. Depress trigger plate (bolt should not go forward).
- d. Place safety on fire (red stripe must be visible).
- e. Depress trigger plate (bolt should go forward).

FM 31-11B-S

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0121

PERFORM A TIMING CHECK AND ADJUST
AN AMERICAN MARK 19 MACHINEGUN

CONDITIONS:

You will be given a Mark 19 timing gauge, and shims.

STANDARDS:

Within 10 minutes, perform timing check and adjust timing as needed.

PERFORMANCE MEASURES:

1. Assemble One of Charger To Weapon.
2. Pull Bolt To Sear Position, Cocking Firing Pin. (See fig. 2.)

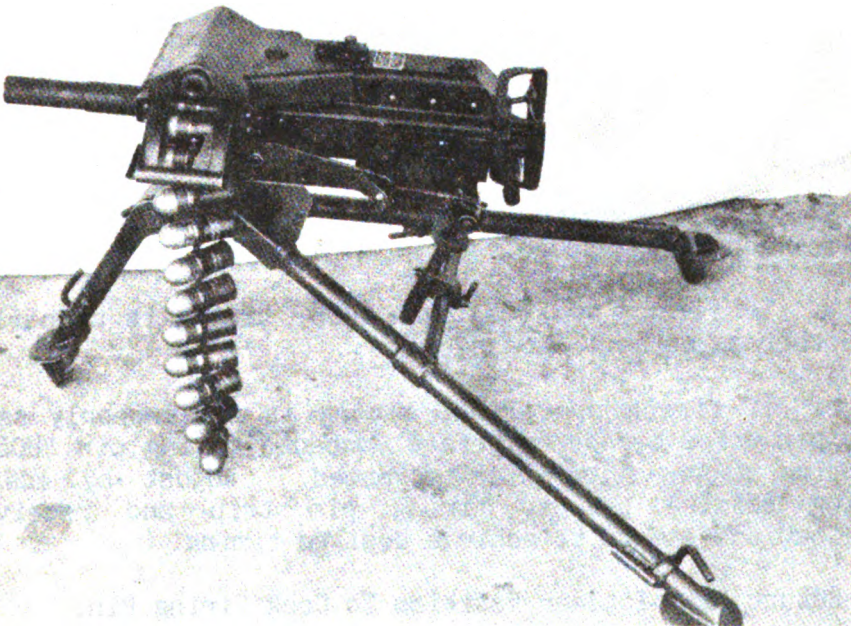


Figure 2

NOTE: Be sure barrel face is tight against barrel block before setting or checking timing.

3. Position Firing Pin "HOLD" End Of Timing Gauge Between Barrel Face And Bolt Face.

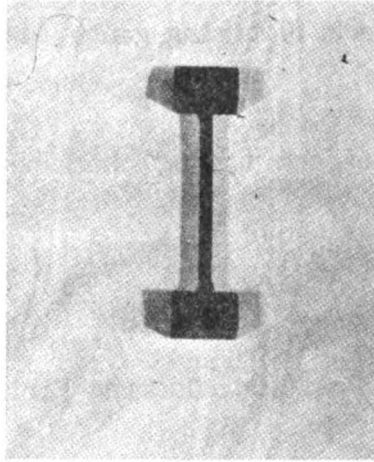


Figure 1

4. Slide Bolt Forward Slowly Until Contact Is Made Between Bolt Face And Timing Gauge.

a. If firing pin does not trip, timing is properly set. (No further adjustment necessary.)

b. If firing pin trips, timing is not properly set. If firing pin trips before bolt face contacts firing pin "HOLD" end of timing gauge, timing is advanced. Adjust by adding or removing shim(s) between firing pin trip and receiver in 0.002-inch increments to achieve desired timing.

5. Return Bolt To Sear Position To Cock Firing Pin.

6. Position Firing Pin "RELEASE" End Of Timing Gauge Between Barrel Face And Bolt Face.

7. Slide Bolt Forward Slowly Until Contact Is Made With Timing Gauge.

a. If firing pin trips before or as bolt face contacts the face of the timing gauge, timing is properly set. (No further adjustment necessary.)

b. If firing pin does not trip, timing is not properly set. If firing pin does not release prior to or after the bolt face contacts firing pin release timing gauge, timing is retarded. Adjust by adding shim(s) between firing pin trip and receiver in 0.002-inch increments to achieve desired timing.

CAUTION: BE SURE BOLT IS BLOCKED DURING TIMING ADJUSTMENTS!

REFERENCE:

None

MOUNT, ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD,
AND CLEAR A SOVIET GORYUNOV SGMB HEAVY MACHINEGUN

CONDITIONS:

You will be given an SGMB, an ammunition belt containing 29 rounds of linked 7.62 x 54mm long rimmed ammunition and 1 inert round, a ruptured cartridge extractor, combination wrench, and cleaning rod.

STANDARDS:

Within the time specified, mount, adjust, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Mount Weapon Within 60 Seconds.

a. Start curved flanges on front mount adaptor (standard equipment) into their seats on mount.

b. Press rear of gun into its bracket.

c. Push locking handle as far to rear as possible, locking weapon on mount.

2. Adjust Mount Within 30 Seconds.

a. Coarse elevating and traversing movements are controlled by lock levers to hold the gun in the specified firing position.

(1) Always lock the elevating lock lever before firing.

(2) Normally lock the traverse lock lever; however, the gun can be fired free traverse.

b. Fine elevation adjustments are made with the fine elevation knob.

3. Adjust Weapon.

a. Adjust rear sight.

- (1) Lift rear sight leaf to vertical position.
- (2) Set the range by pressing slide catch and moving slide to the specified distance in hundred meters.
- (3) Adjust fine elevation with elevating knob.
- (4) Adjust windage with windage knob. NOTE: Use range figures on right side of leaf when firing light bullets (Type L or LPS) and use left side when firing silver, white, or yellow-tipped bullets.

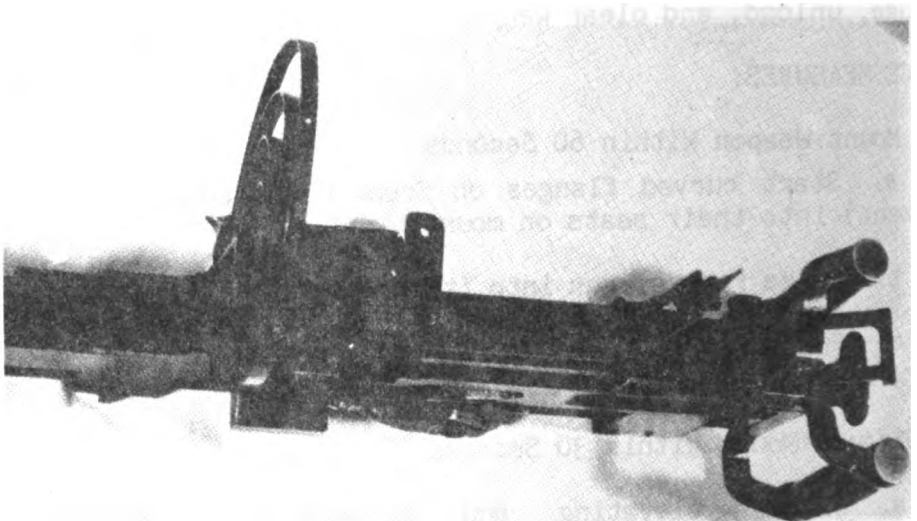


Figure 1

b. Adjust front sight.

(1) Set for zero windage by loosening nut on front sight and move side to side as necessary.

(2) Set elevation zero by screwing the post in or out.



Figure 2

4. Load and fire weapon.

a. Load weapon within 60 seconds:

(1) Press feed cover catch forward and swing cover

up.

(2) Place belt in feedway with rim of first cartridge between cartridge feed slide grippers.

(3) Close cover.

(4) Pull operating handle to rear; then push forward.

b. Fire weapon within 5 seconds:

- hand.
- (1) Lift up locking lever (safety) with thumb of one hand.
 - (2) Aim.
 - (3) Using other thumb, press forward on trigger.
 - (a) Bolt remains open between bursts.
 - (b) Bolt remains closed when last round has been fired.

5. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 10 seconds:

- (1) Wait 5 seconds.
- (2) Pull operating handle to rear.
- (3) Observe for ejected rounds, brass, or links.
- (4) Push operating handle forward.
- (5) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows:

- (1) If weapon fails to feed, check for
 - (a) Insufficient gas pressure. (Clean gas port.)
 - (b) Defective feed pawl or feed pawl spring. (Return to higher echelon.)
 - (c) Defective front and rear cartridge guides. (Return to higher echelon.)
 - (d) Defective cover latch. (Return to higher echelon.)
 - (e) Defective feed lever cam spring. (Return to higher echelon.)
 - (f) Defective cam roller. (Return to higher echelon.)
 - (g) Inadequate lubrication. (Apply lubricant.)

(h) Defective ammunition or link. (Insert new ammunition or link.)

(i) Ammunition belt installed wrong. (Reverse belt with open portion of link down.)

(j) Damaged or weakened operating rod spring. (Replace spring.)

(k) Obstruction in receiver. (Remove obstruction:

1. Wait 5 minutes (in case of cookoff).

2. Pull bolt to rear.

3. Holding cleaning rod about 6 inches from the handle, insert it into muzzle.

4. Force the case from chamber with cleaning rod. (CAUTION: Care should be taken not to damage bolt face by striking it when rod is pushed through bore.)

(2) If ammunition fails to chamber, check for

(a) Ruptured cartridge case. (Remove cartridge case:

1. Wait 5 minutes (in case of cookoff).

2. Raise cover and pull bolt to rear.

3. Place cartridge extractor in T-slot of bolt as if it were a cartridge.

4. Align cartridge extractor with the bore and insure that it is firm in the T-slot.

5. Let bolt go forward (this forces extractor through ruptured case).

6. Pull bolt to rear.

7. Remove ruptured case and extractor.)

(b) Carbon caked in gas cylinder. (Remove carbon.)

(c) Carbon caked in receiver. (Remove carbon.)

- (d) Damaged round. (Remove round.)
- (3) If weapon fails to fire, check for
 - (a) Damaged or broken firing pin. (Replace firing pin.)
 - (b) Damaged or broken firing pin spring. (Replace spring.)
 - (c) Faulty ammunition. (Replace ammunition.)
 - (d) Dirty chamber. (Clean or change barrel.)
 - (e) Weakened or damaged operating rod drive spring. (Replace spring.)
- (4) If ammunition fails to extract, check for
 - (a) Broken extractor or spring. (Replace.)
 - (b) Short recoil. (Clean gas port and operating rod tube, and lubricate.)
 - (c) Gas piston installed backwards. (Install properly.)
- (5) If ammunition fails to eject, check for
 - (a) Short recoil. (Clean gas port.)
 - (b) Frozen or damaged ejector or ejector spring. (Clean or replace.)
- (6) If weapon fails to cock, check for
 - (a) Broken sear. (Return to higher echelon.)
 - (b) Worn operating rod sear notch. (Return to higher echelon.)
 - (c) Broken or defective sear plunger or spring. (Return to higher echelon.)
 - (d) Obstruction in receiver. (Clear.)
 - (e) Short recoil. (Clean gas port.)

6. If sluggish or runaway gun conditions occur, proceed as follows:

a. If weapon operates sluggishly (due to excessive friction caused by dirt or carbon, improper lubrication, or burred parts),

(1) Clean and lubricate weapon.

(2) Inspect for and replace any burred parts as necessary.

b. If runaway gun condition occurs (weapon fires immediately upon loading or continues firing upon releasing trigger due to defective trigger mechanism, worn sear notch, or worn firing pin shoulders),

(1) Hold fire on target until feeding stops or ammunition is expended. (In cases of long ammunition belts, firing may be stopped by twisting belt to stop the feeding.)

(2) Disassemble weapon and locate problem.

(3) Replace parts as necessary.

7. Unload And Clear Weapon Within 30 Seconds.

a. Unload:

(1) Open cover by pressing cover catch forward.

(2) Lift belt from feed pawls.

(3) Lift lower feed cover.

(4) Remove cartridge from cartridge grippers.

b. Clear:

(1) Visually inspect chamber.

(2) Pull operating handle to rear and hold it.

(a) Raise safety.

(b) Press trigger.

(3) Ease operating handle forward.

(4) Close covers and lower rear sight.

REFERENCE:

ne

331-915-0123

MAINTAIN A SOVIET GORYUNOV SGMB HEAVY MACHINEGUN, MOUNT, AND AMMUNITION

CONDITIONS:

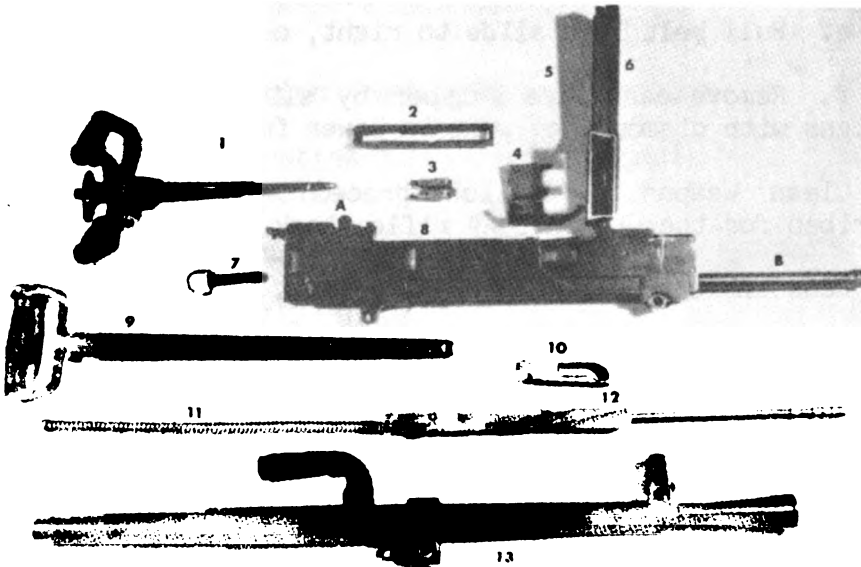
You will be given an SGMB; a mount; 20 rounds of linked 7.62 x 54mm long rimmed ammunition; a cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, linseed oil, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain mount and ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 3 Minutes. (See fig. 1.)



SOVIET GORYUNOV HEAVY MACHINE GUN (SGMB)

- | | | |
|-------------------------------|----------------------|---------------------|
| 1. BACK PLATE W/GUIDE | 6. FEED COVER | 9. OPERATING HANDLE |
| 2. CARTRIDGE FEED SLIDE GUIDE | 7. TAKEDOWN PIN | 10. BOLT |
| 3. CARTRIDGE FEED SLIDE | 8. RECEIVER | 11. DRIVING SPRING |
| 4. BELT FEED SLIDE | A. REAR SIGHT | 12. SLIDE & PISTON |
| 5. LOWER FEED COVER | B. GAS CYLINDER TUBE | 13. BARREL |

Figure 1

- a. Clear the gun within 10 seconds and leave feed covers open.
- b. Remove backplate and driving spring:

NOTE: Use extreme caution when working with driving spring because of danger to personnel and the spring.

- (1) Depress detent in latch on the top center of backplate and slide latch to rear.

- (2) Rotate backplate to the right until it can be removed.

- (3) Pull out driving spring.

- c. Slide the sear housing out the rear.

- d. Remove bolt slide:

- (1) Pull operating handle rearward (this moves bolt and slide to rear of receiver).

- (2) Pull slide out rear of receiver.

- (3) Lift bolt off slide.

- e. Pull belt feed slide to right, out of receiver.

- f. Remove cartridge gripper by sliding it to rear until it aligns with dismounting cuts in lower feed cover.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 5 Minutes.

- a. Replace cartridge gripper in lower feed cover with gripper lug down on to rear.

- b. Push ejector forward in the bolt. Place belt feed slide into receiver and push it in as far left as possible.

- c. Replace bolt and slide:

- (1) Lay bolt over hammer cam on slide and move bolt as far forward as possible.

- (2) Shove operating handle forward.

(3) Insert slide into receiver.

d. Slide sear housing (sear to the front) into receiver.

e. Replace backplate and driving spring (do not pull back on bolt handle while completing this step):

(1) Insert driving spring into slide.

(2) Insert driving spring guide into spring.

(3) With the backplate at a right angle to receiver, insert backplate lugs into receiver and rotate backplate counterclockwise until it stops.

f. Slide lock on top center of backplate forward.

g. Close all covers.

5. Maintain Mount.

a. Clean regularly or as needed.

b. Occasionally lightly oil moving parts.

6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 10 Seconds.

a. Pull operating handle to rear until bolt locks (do not depress thumb safety).

b. Depress trigger (bolt should not go forward).

c. Depress thumb safety.

d. Hold the operating handle and press the trigger, allowing bolt to go forward under your control.

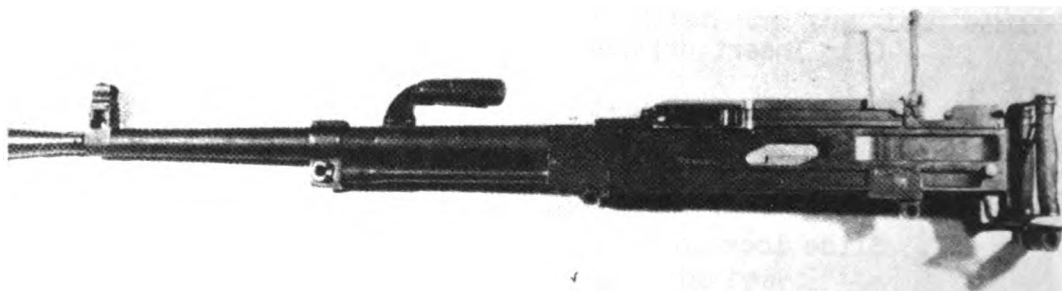


Figure 2

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0124

MOUNT, ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD
AND CLEAR A SOVIET DSHK M-38/46 MACHINEGUN

CONDITIONS:

You will be given a DShK M38/46; an M46 mount; and 29 rounds of 12.7 x 108mm linked ammunition and an inert round.

STANDARDS:

Within the time specified, mount, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Mount The Weapon.

- a. Mount weapon on wheeled mount within 90 seconds. (See fig. 1.)

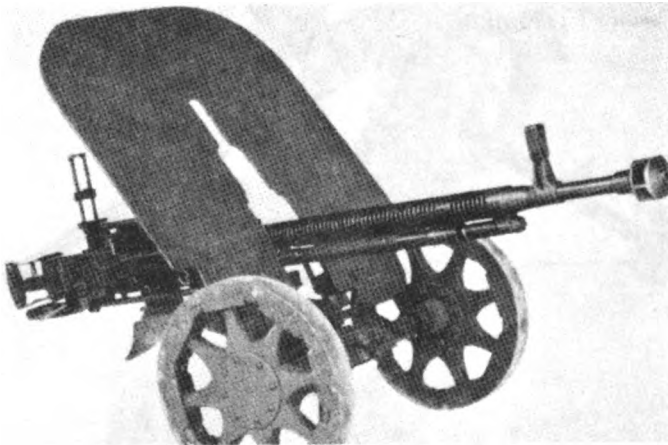


Figure 1

- (1) Open trunnion caps on mount by loosening cap wingnuts.
- (2) Swing caps open.
- (3) Place gun trunnions into their seats on mount.
- (4) close trunnion caps.
- (5) Tighten wingnuts.
- (6) Place rear end of receiver into the mount.
- (7) Secure receiver with mounting pin.

NOTE: To dismount, reverse above procedure.

- b. Convert wheeled mount to tripod mount within 90 seconds. (See fig. 2.)

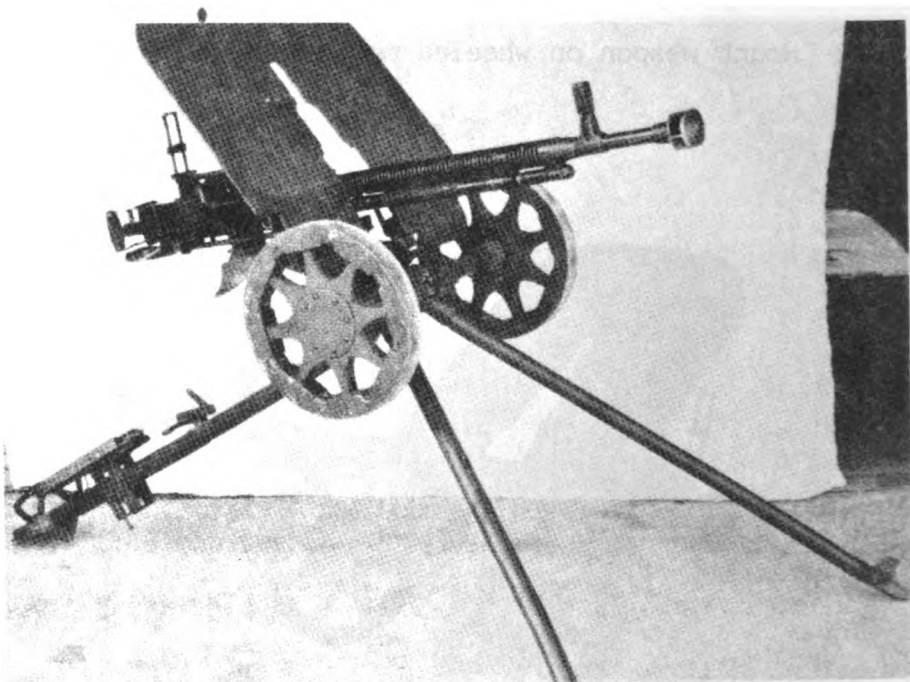


Figure 2

- (1) Dismount weapon.
- (2) Loosen shield clamps and remove shield.

(3) Loosen the axle bracket clamp and remove wheels and axle.

(4) Loosen the clamp halfway along the legs.

(5) Lift mount so legs are perpendicular to the ground.

(6) Seing middle leg to rear.

(7) Open outer legs.

(8) Lock the middle leg so that the upper mount will rotate on a horizontal plane.

(9) Reinstall the gun.

2. Adjust, Load, And Fire Weapon.

a. Adjust.

(1) Adjust rear sight: (See fig. 3.)

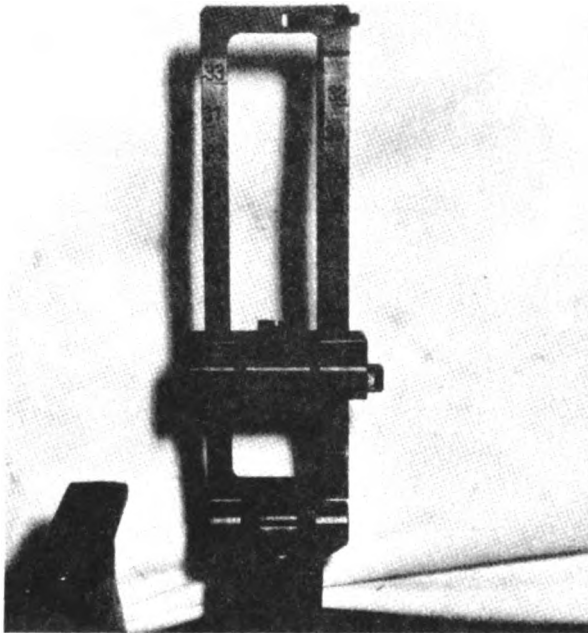


Figure 3

- (a) Lift rear sight leaf to vertical position.
 - (b) Set to specified range by pressing slide catch and moving the slide up along the leaf until top edge of slide aligns with the line below the range in hundreds of meters (200-2000 meters).
 - (c) Use elevating knob for fine range adjustments (turn right or left).
 - (d) Use windage knob for right and left adjustment.
- (2) Adjust front sight: (See fig. 4.)

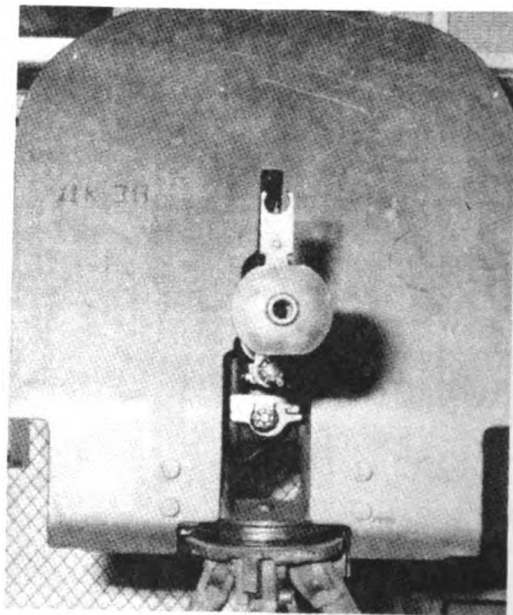


Figure 4

- (a) Loosen the nut on front sight base.
- (b) Move sight from side to side to zero (adjust as needed).
- (c) Screw the post in or out as necessary for elevation.

b. Load within 60 seconds: (See fig. 5.)

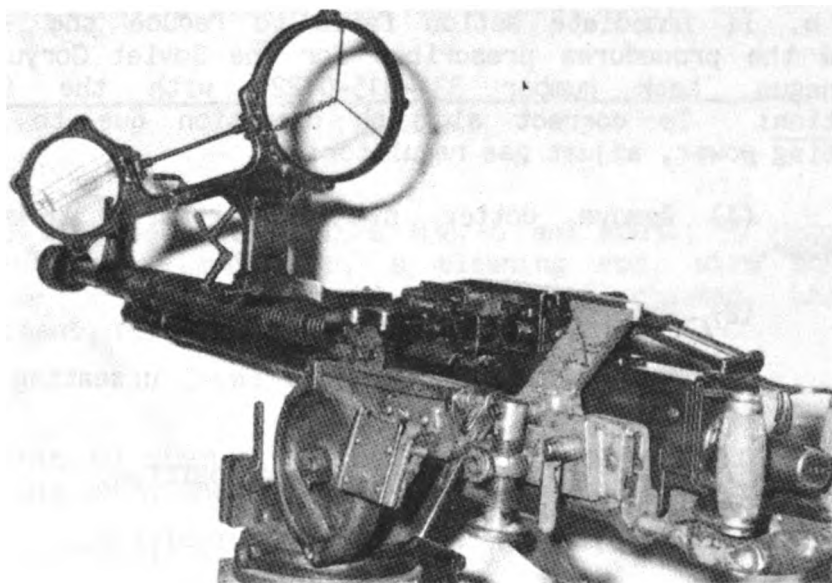


Figure 5

- (1) Insert belt into feeder.
- (2) Vigorously jerk on lead tab to seat first cartridge.
- (3) Pull operating handle to rear and push it forward.
- (4) Rotate safety forward ("SAFE").

c. Fire within 5 seconds:

- (1) Rotate safety to rear ("FIRE").
- (2) Aim and fire (bolt will remain closed when last round has fired).

3. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 10 seconds:

(1) Pull operating handle to rear and then push it forward.

(2) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, follow the procedures prescribed for the Soviet Goryunov SGMB machinegun, task number 331-915-0122, with the following exception: To correct sluggish operation due to loss of operating power, adjust gas regulator:

(1) Remove cotter pin that passes through gas regulator.

(2) Unscrew nut.

(3) Gently tap regulator to rear, unseating it from its engagement.

(4) Turn it to its next higher position.

(5) Pull regulator forward into position.

(6) Tighten nut.

(7) Replace cotter pin.

4. Unload and clear weapon within 30 seconds.

a. Set safety to "SAFE" position (forward).

b. Open cover and remove belt.

c. Inspect feeder, chamber, and receiver for cartridge.

d. Close all covers.

e. Rotate safety to rear ("FIRE").

f. Pull operating handle to rear, press trigger and ease bolt forward.

g. Lower rear sight.

REFERENCE:

None

331-915-0125

MAINTAIN A SOVIET DShK M38/46 MACHINEGUN, MOUNT, AND AMMUNITION

CONDITIONS:

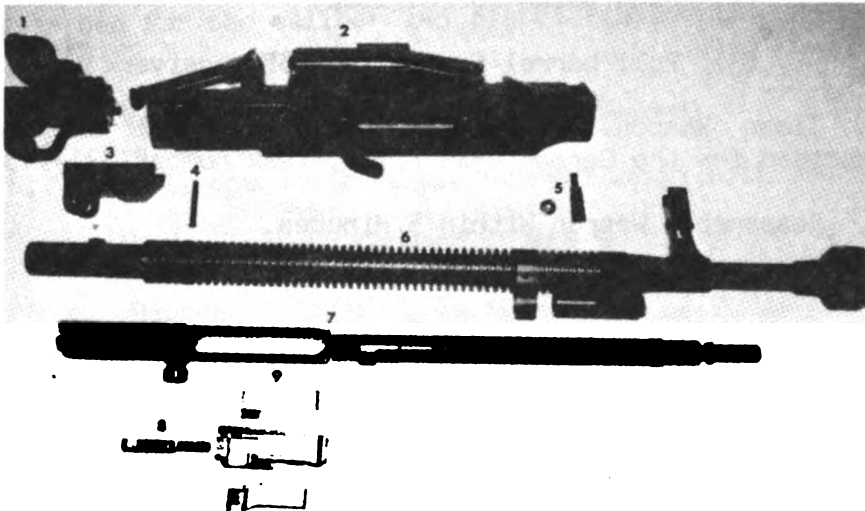
You will be given a DShK M38/46 and mount; 50 rounds 12.7 x 108mm linked ammunition; a cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain mount and ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 3 Minutes.



MG DSHK M38/46 SOVIET

- | | |
|---------------------------------|---------------------------|
| 1. Backplate | 6. Barrel |
| 2. Receiver Group | 7. Operating Slide Group |
| 3. Sear Mechanism | 8. Firing Pin |
| 4. Backplate Retaining Pin | 9. Bolt and Locking Flaps |
| 5. Barrel Locking Wedge and Nut | |

Figure 1

- a. Clear weapon within 10 seconds (leave feed cover open).
- b. Press out crosspin at rear of receiver.
- c. Driver backplate upward until it separates from receiver.
- d. Push sear mechanism to rear and remove it.
- e. Hold knurled gas piston tube under barrel and force forward as far as possible.
- f. Turn knurled gas piston clockwise to disengage from barrel.
- g. Pull operating stud rearward and remove gas piston, bolt, slide, and gas piston tube.
- h. Lift bolt off slide and remove firing pin and locking flaps.
- i. Remove barrel:
 - (1) Unscrew nut at top front of receiver.
 - (2) Push aside barrel lock.
 - (3) Pull barrel forward out of receiver.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 5 Minutes.

- a. Replace barrel:
 - (1) Place barrel into receiver.
 - (2) Move barrel lock to side.
 - (3) Tighten nut at the top front of receiver.
- b. Replace firing pin into bolt.
- c. Replace locking flaps onto bolt.
- d. Place the assembled bolt on the slide.

e. Push bolt assembly forward on the slide until the locking flaps lie flush against the bolt.

f. Insert the entire unit into the receiver.

g. Pull the gas piston tube forward and turn it counterclockwise to reengage it with the barrel.

h. Slide sear mechanism into receiver.

i. Slide backplate down on the receiver.

j. Install the cross pin at rear of receiver.

NOTE: Check receiver to insure feed operating lever is pushed forward before closing the feeder.

k. Close the feed cover.

l. Lower rear sight.

5. Maintain Mount. (Follow procedures and use materials prescribed for the Soviet SGMB heavy machinegun, task number 311-915-0123.)

6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 10 Seconds.

a. Pull operating handle to rear until bolt locks.

b. Rotate safety forward ("SAFE").

c. Depress trigger (bolt should not go forward).

d. Rotate safety rearward ("FIRE").

e. Depress trigger and allow bolt to go forward under your control.

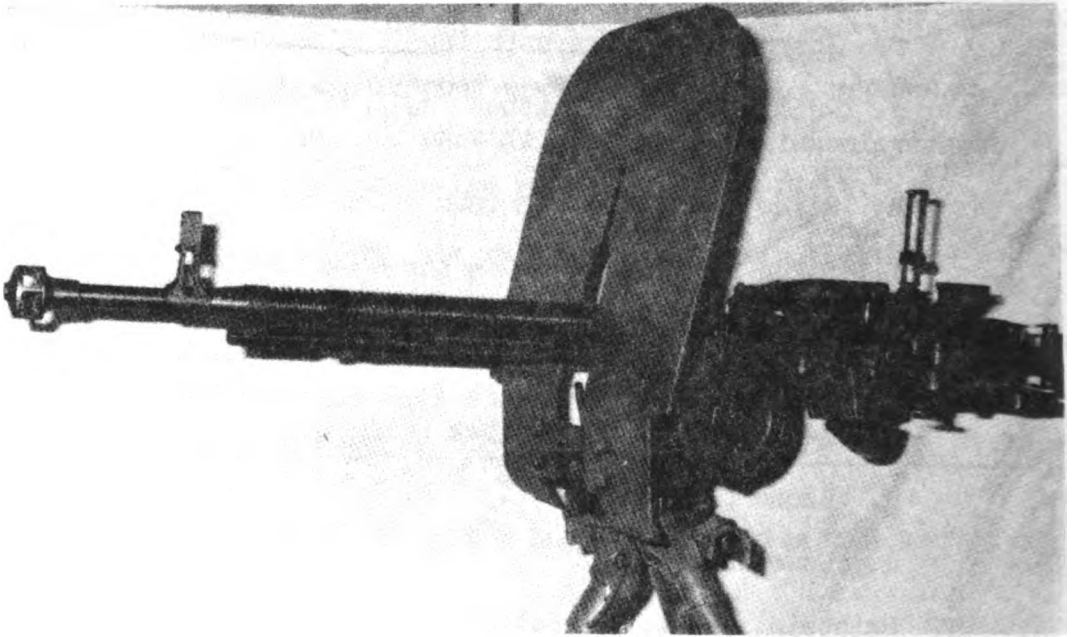


Figure 2

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

071-312-0008

PERFORM A DETAILED DISASSEMBLY AND REASSEMBLY
OF AN AMERICAN M60 MACHINEGUN

CONDITIONS:

You will be given an M60, combination wrench, and pointed object.

STANDARDS:

Within 50 minutes, disassemble and reassemble the operating group, trigger housing group, barrel group, and receiver group.

PERFORMANCE MEASURES:

1. Field Strip Weapon. (See fig. 1.) (Follow procedures and use materials prescribed in task number 071-312-3005, FM 7-11B1/2.)

2. Identify Weapon Parts. (See figs. 1 and 2.)

3. Perform Detailed Disassembly Within 4 Minutes. (See fig. 2.)

a. Disassemble operating group:

(1) Remove operating rod.

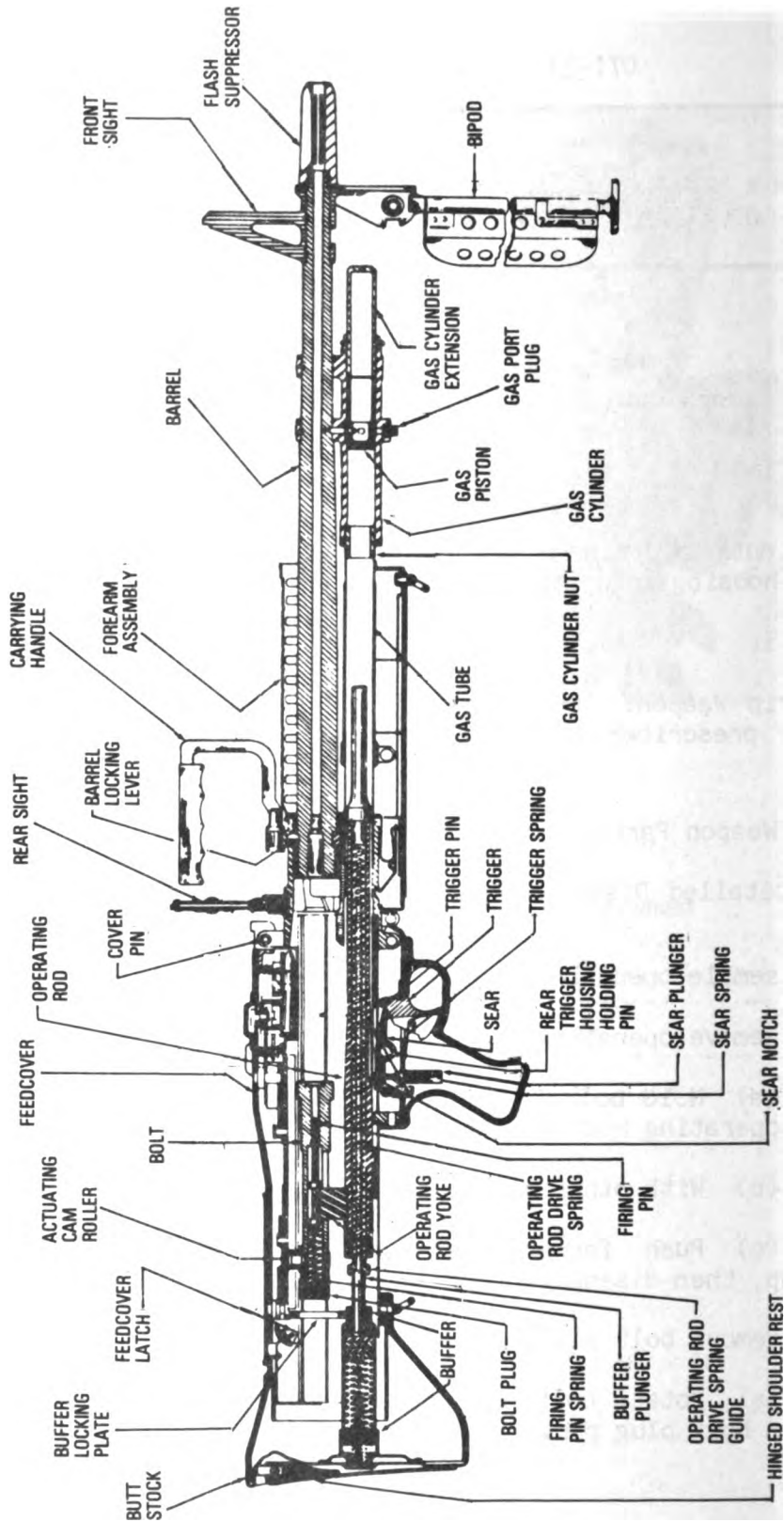
(a) Hold bolt in one hand so that bolt face is toward you and operating rod is on top.

(b) With other hand, hold operating rod.

(c) Push forward and pivot the front of the operating rod up, then disengage it from bolt.

(2) Remove bolt plug.

(a) Rotate bolt cam roller assembly until holes are aligned with bolt plug pin.



MACHINEGUN, 7.62MM, M60

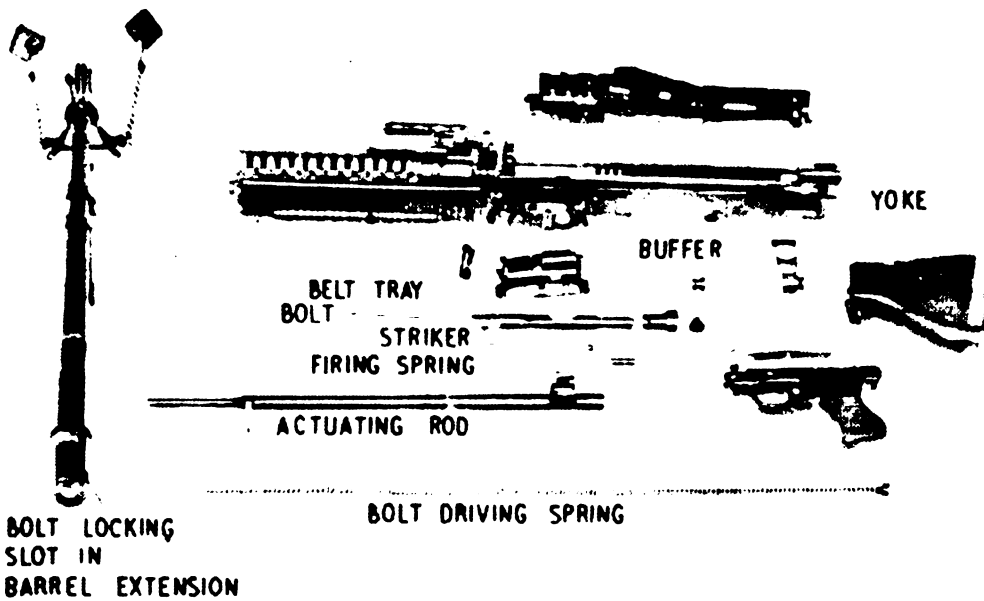


Figure 2

(b) Use a pointed object or round of ammunition to remove bolt plug pin.

(c) unscrew and remove bolt plug.

(3) Remove cam roller assembly by pulling it from rear of bolt.

(4) Remove firing pin spring, firing pin bearing, and firing pin from bolt body.

NOTE: Do not remove extractor and ejector.

b. Disassemble trigger housing assembly:

(1) Depress sear and remove sear pin by pushing pin to the left.

(2) Remove sear from top of trigger housing.

(3) Remove sear plunger and sear plunger spring.

(4) Remove trigger pin by pulling it to the right.

(5) Remove trigger through top of trigger housing.

c. Disassemble barrel group:

(1) Place bipod legs in down position.

(2) Use combination wrench to unscrew and remove cylinder nut.

(3) Slide gas piston out rear of cylinder.

(4) Unscrew and remove gas port plug.

NOTE: Do not remove gas port plug unless gas piston is frozen.

(5) Unscrew and remove gas cylinder extension.

d. Disassemble receiver group:

(1) Remove cocking handle.

(a) Unscrew and remove cocking handle guide screw and lock washer.

(b) Remove cocking handle guide by rotating it down and away from receiver.

(c) Pull cocking handle to rearward and remove it from guide slot.

(2) Remove forearm assembly.

(a) Close cover and turn receiver group so that cover is down.

(b) Insert a pointed object into latch hole at bottom rear of forearm assembly.

(c) Press down on the pointed object to release forearm latch.

(d) Slightly raise forearm assembly and remove it to the front.

(3) Remove cover assembly.

(a) With a pointed object, push hinge pin latch out of its recess.

(b) Remove hinge pin by pulling it from opposite side of recess.

(c) Lift cover from receiver.

(4) Raise up and remove feedtray from receiver.

4. Perform Detailed Reassembly Within 6 Minutes.

a. Reassemble receiver group:

(1) Align feed tray guides to the left of receiver mounting brackets and slide feedtray into place.

(2) Replace cover.

(a) Insert cover spring in receiver well and align cover in mounting bracket.

(b) Insert hinge pin from one side and hinge pin latch from opposite side.

(3) Replace forearm assembly.

(a) Guide forearm assembly over the operating rod tube, insuring that the operating rod tube DOES NOT strike baffles inside the assembly.

(b) Align recess in forearm assembly with end of operating rod tube.

(c) Firmly tap up on bottom rear of forearm assembly with palm of hand to lock it into position.

(4) Replace cocking handle.

(a) Position cocking handle in square opening at rear of cocking handle guide slot and push it forward.

(b) Position cocking handle guide over cocking handle by inserting bottom tabs in slots in receiver.

(c) Align screw holes and rotate cocking handle guide up into position.

(d) Replace lock washer and screw.

b. Reassemble barrel group:

(1) Replace and screw in gas cylinder extension.

(2) Replace and screw in gas port plug.

(3) Insert gas piston into gas cylinder with both the gas escape holes and the closed end toward the rear.

(4) Replace gas cylinder nut and tighten with combination wrench.

(5) Return bipod legs to up position.

c. Assemble trigger housing assembly.

(1) With trigger spring to the rear, insert trigger through top of trigger housing (spring should be under channel surface).

(2) Align hole in trigger with holes in housing and replace trigger pin from right.

(3) Replace sear plunger spring and sear plunger in their well in trigger housing.

(4) Position sear with shoulder up and to the rear.

(5) Press down sear and replace sear pin from the left.

d. Reassemble operating group:

(1) Hold bolt body in palm of one hand with bolt face down.

(2) Insert strike end of firing pin into rear of bolt body.

(3) Prevent firing pin from moving forward by holding rear firing pin spool in the bolt camming slot with your thumb.

(4) Insert firing pin bearing (partially closed end first) into bolt body.

(5) Position firing pin spring within firing pin bearing.

(6) Remove thumb from bolt camming slot and allow parts to enter bolt body.

(7) Place cam roller assembly over rear of bolt with cam roller toward bolt front.

(8) Replace bolt cam roller assembly.

(a) Screw bolt plug finger tight with bolt body.

(b) Rotate cam roller assembly until holes align with holes in bolt body.

(c) Unscrew bolt plug until holes align with holes in cam roller assembly and bolt body.

(d) Insert bolt plug pin so that it is within cam roller assembly.

NOTE: The assembly should rotate freely around bolt.
--

(9) Replace operating rod.

(a) With camming slot up, hold bolt securely in one hand with bolt face toward bolt body.

(b) With other hand, position rear of operating rod yoke against rear firing pin spool.

(c) Push on operating rod to compress firing pin assembly.

(d) Position operating rod yoke between firing pin spools.

5. Reassemble Weapon. (Follow procedures and use materials prescribed for the M60 machinegun, task number 071-312-3005, FM 7-11B1/2.)

REFERENCES:

- 1 23-67 Machinegun, 7.62mm, M-60 (chap 2, sec IV, pages 9-30)
- 1 7-11B1/2, Soldier's Manual, 11B, Infantry

331-915-0127

MOUNT, ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A SOVIET PK MACHINEGUN

CONDITIONS:

You will be given a PK machinegun, 49 rounds of linked ammunition, and an inert round.

STANDARDS:

Within the time specified, mount, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Mount Weapon Within 60 Seconds.



Figure 1

a. Mount Weapon:

(1) Engage the mounting lugs in the front of the receiver with the bipod mount and lock into place.

(2) Engage the mounting lugs in the front end of trigger guard with the traversing and elevating mechanism and lock into place.

2. Adjust, Load, And Fire Weapon.

a. Adjust rear sight.

(1) Press locks in on the rear sight slide.

(2) Move slide rearward, aligning slide edge with the figures that correspond to the specified range in hundreds of meters (200-1,100 meters).

b. Load within 60 seconds.

(1) Pull operating handle to rear, then push it forward.

(2) Press safety to right "SAFE" position.

(3) Press cover catch forward and lift cover.

(4) Place loaded ammunition belt on feed tray.

NOTE: Rim of first cartridge should be in cartridge gripper at center rear of the feedway.

(5) Close feed cover.

CAUTION: Weapon is now ready to fire!

c. Fire within 5 seconds:

(1) Swing safety forward ("FIRE").

(2) Aim, press trigger, and fire.

(a) Weapon will fire as long as the trigger is

held and ammunition is fed.

(b) Bolt will remain open between bursts.

(c) Bolt will close on an empty chamber when the last round is fired.

NOTE: The barrel should be changed after 500 rounds of sustained fire or when weapon refuses to fire accurately due to overheating.

3. Take Immediate Action To Reduce A Stoppage:

a. Apply immediate action within 10 seconds.

(1) Wait 5 seconds.

(2) Pull operating handle to rear.

(3) Inspect chamber for rounds, brass, links, or other obstructions.

(4) Push operating handle forward.

(5) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows:

(1) If weapon fails to feed, check for

(a) Insufficient gas pressure. (Clean gas port.)

(b) Defective feed pawl or feed pawl spring. (Return to higher echelon.)

(c) Defective front and rear cartridge guides. (Return to higher echelon.)

(d) Defective cover latch. (Return to higher echelon.)

(e) Defective feed lever cam spring. (Return to higher echelon.)

(f) Defective cam roller. (Return to higher echelon.)

(g) Inadequate lubrication. (Apply lubricant.)

(h) Defective ammunition or link. (Insert new ammunition or link.)

(i) Ammunition belt installed wrong. (Reverse belt with open portion of link down.)

(j) Damaged or weakened operating rod spring. (Replace spring.)

(k) Obstruction in receiver. (Remove obstruction:

1. Wait 5 minutes (in case of cookoff).

2. Pull bolt to rear.

3. Holding cleaning rod about 6 inches from the handle, insert it into muzzle.

4. Force the case from chamber with cleaning rod. (CAUTION: Care should be taken not to damage bolt face by striking it when rod is pushed through bore.)

(2) If ammunition fails to chamber, check for

(a) Ruptured cartridge case. (Remove cartridge case:

1. Wait 5 minutes (in case of cookoff).

2. Raise cover and pull bolt to rear.

3. Place cartridge extractor in T-slot of bolt as if it were a cartridge.

4. Align cartridge extractor with the bore and insure that it is firm in the T-slot.

5. Let bolt go forward (this forces extractor through ruptured case).

6. Pull bolt to rear.

7. Remove ruptured case and extractor.)

(b) Caked carbon in gas cylinder. (Remove carbon.)

(c) Caked carbon in receiver. (Remove carbon.)

- (d) Damaged round. (Remove round.)
- (3) If weapon fails to fire, check for
 - (a) Damaged or broken firing pin. (Replace firing pin.)
 - (b) Damaged or broken firing pin spring. (Replace spring.)
 - (c) Faulty ammunition. (Replace ammunition.)
 - (d) Dirty chamber. (Clean or change barrel.)
 - (e) Weakened or damaged operating rod drive spring. (Replace spring.)
- (4) If ammunition fails to extract, check for
 - (a) Broken extractor or spring. (Replace.)
 - (b) Short recoil. (Clean gas port and operating rod tube, then lubricate.)
 - (c) Gas piston installed backwards. (Install properly.)
- (5) If ammunition fails to eject, check for
 - (a) Short recoil. (Clean gas port.)
 - (b) Frozen or damaged ejector or ejector spring. (Clean or replace.)
- (6) If weapon fails to cock, check for
 - (a) Broken sear. (Return to higher echelon.)
 - (b) Worn operating rod sear notch. (Return to higher echelon.)
 - (c) Broken or defective sear plunger or spring. (Return to higher echelon.)
 - (d) Obstruction in receiver. (Clear as required.)
 - (e) Short recoil. (Clean gas port.)

4. If Sluggish Or Runaway Gun Conditions Occur, Proceed As Follows:

a. Sluggish operation due to excessive friction caused by dirt or carbon, improper lubrication, or burred parts:

- (1) Clean and lubricate weapon.
- (2) Inspect for and replace any burred parts.

b. Sluggish operation due to loss of operating power, adjust gas regulator: (NOTE: Some weapons have sleeve-type regulator which bleeds off excessive gas.)

- (1) Engage rim of a cartridge case in regulator jaws.
- (2) Rotate regulator by using cartridge case rim and regulator jaws.

NOTE: Detent tab covers the number which indicates the setting.

- (3) Use "1" setting for clean weapons.
- (4) Use higher number setting for dirty weapons or in cold weather, or for short bursts for antiaircraft firing.

c. Runaway gun (weapon fires immediately upon loading or continues firing upon releasing trigger due to defective trigger mechanism, worn wear notch, or worn firing pin shoulders):

(1) Hold fire on target until feeding stops or ammunition is expended. (In cases of long ammunition belts, firing may be stopped by twisting belt to stop the feeding.)

(2) Disassemble weapon and locate problem.

(3) Replace parts as necessary.

5. Unload And Clear Weapon Within 30 Seconds.

a. Press cover catch and open cover.

b. Lift belt out of feedway.

c. Remove the single cartridge from the cartridge gripper.

NOTE: It may be necessary to swing the feedtray up and press this cartridge out of the feed lips in the tray.

- d. Pull operating handle rearward.
- e. Inspect chamber.
- f. Grasp operating handle.
- g. Press trigger.
- h. Ease operating mechanism forward.
- i. Close cover.
- j. Rotate safety to rear ("SAFE").

REFERENCE:

None

331-915-0128

MAINTAIN A SOVIET PK MACHINEGUN, MOUNT, AND AMMUNITION

CONDITIONS:

You will be given a PK; 100 rounds of linked 7.62 x 54R ammunition; a cleaning rod, wire bore brush, chamber brush; toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts:
2. Disassemble Weapon Within 2 Minutes:



Figure 1

- a. Clear weapon within 10 seconds. (Do not set on "SAFE" or close the cover.)
 - b. Remove barrel:
 - (1) Swing feedway up.
 - (2) Slide barrel lock out to the side.
 - (3) Pull barrel carrying handle away from the barrel to unseat barrel from receiver.
 - (4) Pull barrel forward, off the gun.
 - c. Remove driving spring:
 - (1) Press in driving spring guide at the rear of the receiver.
 - (2) Ease the guide and spring up and out of the weapon.
 - d. Remove bolt and carrier:
 - (1) Grasp bolt carrier by the cartridge grippers.
 - (2) Pull entire unit to rear, then up until it comes free of the receiver.
 - (3) Lift bolt and carrier up and out of the gun.
 - e. Separate bolt and carrier:
 - (1) Pull bolt forward in the carrier while twisting the bolt free of the cam.
 - (2) Lift bolt out of carrier.
 - f. Lift firing pin from its recess and remove it.
3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)
 4. Reassemble Weapon Within 4 Minutes.
 - a. Reassemble and replace bolt and bolt carrier:
 - (1) Seat firing pin in its recess in the bolt.

(2) Seat bolt into its hole in the bolt carrier, twisting as necessary to engage firing pin and bolt, while twisting with their recess in the carrier.

(3) Start piston into the gas cylinder tube.

(4) Pull bolt forward.

(5) Seat slide in the receiver.

(6) Pull trigger.

(7) Push bolt carrier forward.

b. Replace driving spring:

(1) Insert driving spring into its tunnel in the slide.

(2) Press guide forward against spring pressure until it seats against rear wall of receiver.

c. Insert barrel.

d. Slide barrel lock into position.

e. Close cover.

5. Maintain Mount. (Follow procedures and use materials prescribed for the Soviet SGMB machinegun, task number 311-915-0123.)

6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 10 Seconds.

a. Pull operating handle to rear, then push it forward.

b. Swing safety to rear ("SAFE").

c. Press trigger (bolt should not go forward).

d. Swing safety forward ("FIRE").

e. Pull operating handle to rear and hold it.

f. Press trigger.

FM 31-11B-S

g. Slide bolt forward slowly.

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0129

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A SOVIET RP46 MACHINEGUN

CONDITIONS:

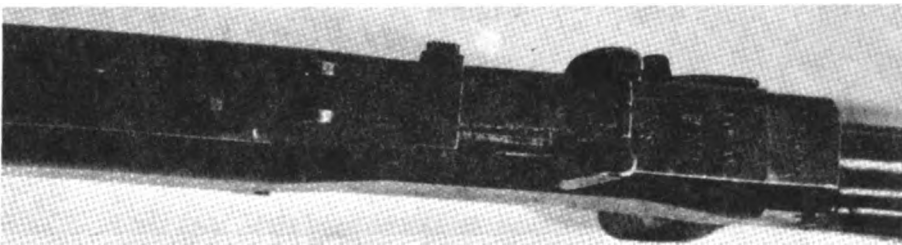
You will be given an RP46, 45 rounds of linked 7.62 x 54R ammunition, and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear a Soviet RP46.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon.
 - a. Adjust:
 - (1) Adjust rear sight: (See fig. 1.)



RP46

Figure 1

- (a) Press slide locks.
 - (b) Move bar along sight until its top aligns with specified range in hundreds of meters (200-800 meters).
- (2) Adjust front sight: (See fig. 2.)

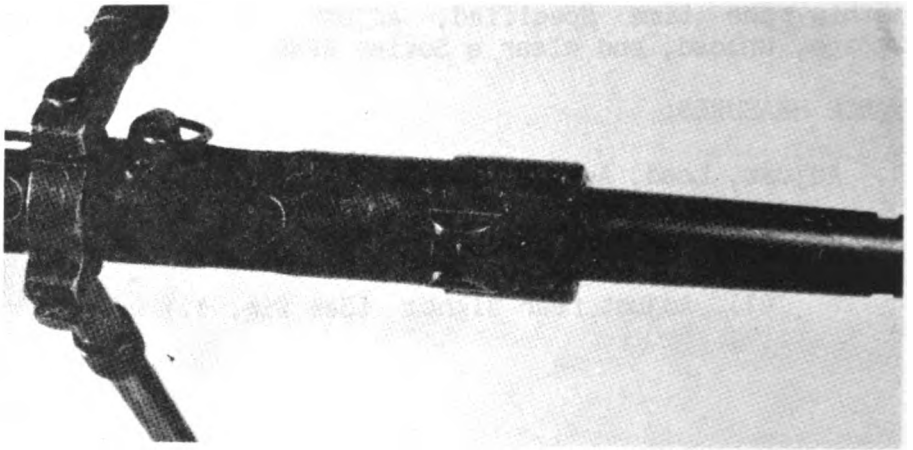


Figure 2

- (a) Set windage by turning large screw on right side of base either clockwise or counterclockwise as needed.
 - (b) Set elevation by screwing front sight post in or out as needed.
- (3) Unfold bipod:
- (a) Unsnap bipod clip from right leg.
 - (b) Swing bipod down into position.

NOTE: Reverse this action to fold bipod.

- b. Load within 60 seconds:

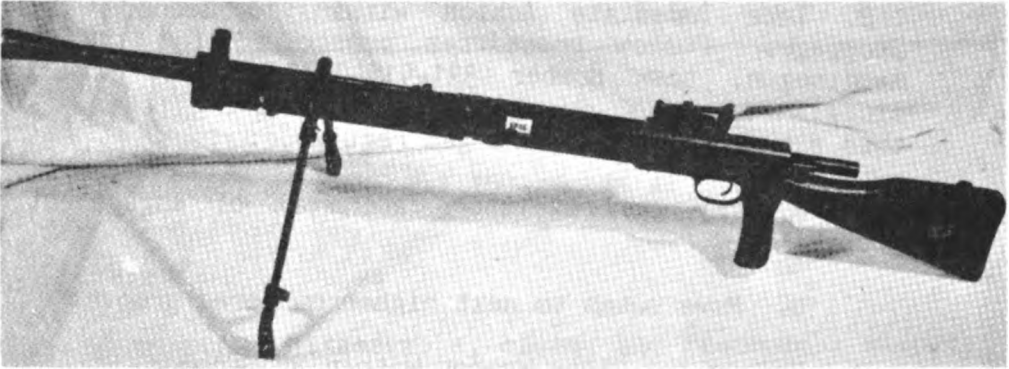


Figure 3

- (1) Rotate safety forward ("SAFE").
 - (2) Open cover by sliding it forward.
 - (3) Pull rear sight base rearward to allow feed cover to swing open.
 - (4) Place loaded ammunition belt on feed tray so that first cartridge is engaged in cartridge gripper.
 - (5) Close cover.
 - (6) Pull operating handle back.
- c. Fire within 5 seconds:
- (1) Rotate safety to rear ("SAFE").
 - (2) Turn down carrying handle.
 - (3) Aim and fire.
 - (a) Bolt will remain open between bursts.

(b) Bolt will remain closed when last round is fired.

NOTE: Barrel should be changed every 500 rounds when used for sustained fire.

2. Take Immediate Action Within 10 Seconds To Reduce A Stoppage. Follow procedures prescribed for the Soviet SGMC machinegun, task number 331-915-0122, except when correcting sluggish operation due to loss of operating power. To correct this situation, adjust the gas regulator:

a. Pry gas regulator catch out of engagement with its groove.

b. Move catch to next higher numbered groove.

3. Unload And Clear Weapon Within 30 Seconds.

a. Unload:

(1) Pull rear sight guard to rear.

(2) Open cover.

(3) Lift the belt out of the gun.

(4) Pull operating handle back.

(5) Inspect feedway, receiver, and chamber for rounds.

b. Clear:

(1) Press trigger.

(2) Ease operating handle forward.

(3) Rotate safety forward.

(4) Close cover.

REFERENCE:

None

331-915-0130

 MAINTAIN A SOVIET RP46 MACHINEGUN AND AMMUNITION

CONDITIONS:

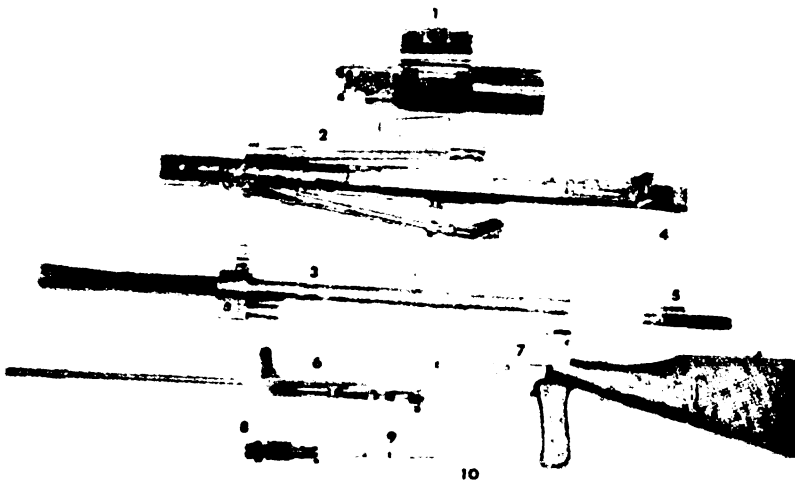
You will be given an RP46 and 100 rounds of linked 7.62 x 54R ammunition.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 3 Minutes.



MG RP-46 Soviet

- | | |
|---------------------------|--------------------------------|
| 1. Cover & feed mechanism | 6. Operating slide |
| 2. Receiver & bipod group | 7. Trigger guard & stock group |
| 3. Barrel | 8. Bolt & locking flaps |
| 4. Receiver retaining pin | 9. Firing pin |
| 5. Recoil spring tube | 10. Recoil spring |

Figure 1

3-563

- a. Clear weapon within 10 seconds. (Do not put on "SAFE.")
- b. Remove driving spring:
 - (1) Pry back detent on driving spring tube.
 - (2) Rotate tube and remove.
 - (3) Pull out driving spring.
- c. Remove feeder:
 - (1) Pull back magazine release to open feeder.
 - (2) Turn carrying handle to the left.
 - (3) Pull operating handle to the rear until it aligns with cutaway in the feed operating slide.
 - (4) Lift feeder off receiver.
 - (5) Push operating handle forward.
- d. Remove butt and trigger guard:
 - (1) Unscrew and remove takedown screw at the right rear of the receiver behind operating handle.
 - (2) Strike down on heel of butt.
 - (3) Separate butt and trigger guard from receiver.
- e. Remove bolt, firing pin, and twin locking flaps:
 - (1) Pull operating handle back.
 - (2) Remove operating slide, bolt, locking flaps, and firing pin as a unit.
 - (3) Lift bolt straight up, off slide.
 - (4) Pull firing pin rearward, out of bolt.
 - (5) Remove twin locking flaps.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 5 Minutes.

a. Reassemble and replace bolt, firing pin, and twin locking flaps:

(1) Place locking flaps on bolt.

(2) Insert firing pin in bolt:

(a) Firing pin lug should contact rear of the bolt.

(b) Rear of locking flaps should project below bolt bottom.

(3) Place bolt on slide:

(a) Align firing pin with fork at slide rear.

(b) Align flaps with cam cut in slide.

(4) Push bolt forward on slide. (Locking flaps should be flush with bolt sides.)

(5) Start piston into gas cylinder tube.

(6) Insert bolt and slide into receiver.

(7) Align slide rails with grooves in receiver.

(8) Slide unit forward into receiver.

b. Replace trigger guard:

(1) Fit round lugs at front of trigger guard into seats in receiver.

(2) Swing trigger guard up into place on receiver.

(3) Screw takedown screw back into place.

c. Replace feeder:

(1) Engage front end forks of feeder with T-lug on barrel jacket.

(2) Lift up rear of feeder.

(3) Move operating handle to the rear (handle should enter cutaway section of feed operating slide).

(4) Drop feeder into position.

(5) Close feeder cover.

(6) Pull operating handle forward.

d. Replace driving spring:

(1) Insert driving spring into hole in the rear of the backplate, insuring spring fits over firing pin extension.

(2) Place driving spring tube over the spring (detent up).

(3) Press tube forward.

(4) Rotate tube to locked position.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Perform Function Check Within 10 Seconds.

a. Pull operating handle to rear until bolt locks.

b. Rotate safety forward to "SAFE" position.

c. Press trigger (bolt should not go forward).

d. Rotate safety rearward ("FIRE").

e. Press trigger and allow bolt to go forward under your control.

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0131

MOUNT, ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
AN AMERICAN M1919A6 MACHINEGUN

CONDITIONS:

You will be given an American M1919A6 machinegun, a tripod mount, cleaning rod, wooden blocks, 49 rounds of ammunition, and an inert round.

STANDARDS:

Within the time specified, mount, adjust, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Mount Weapon Within 90 Seconds:

- a. Insert weapon pintle into pintle bushing in a tripod head.
- b. Insure pintle lock mechanism has engaged the pintle, locking it securely to tripod.

2. Adjust, Load, And Fire Weapon:

a. Adjust.

(1) Adjust rear sight: (See fig. 1.)

(a) Rotate elevation knob until the slide top aligns with specified range. (The scale is in 200-yard graduations from 200-2,400 yards.)

(b) Rotate the windage knob to make coorections. (The scale is in 1-mil graduations for 10 mils right or left from 0.)

(2) Adjust front sight by turning the adjusting nut to raise or lower front sight blade. (See fig. 2.)

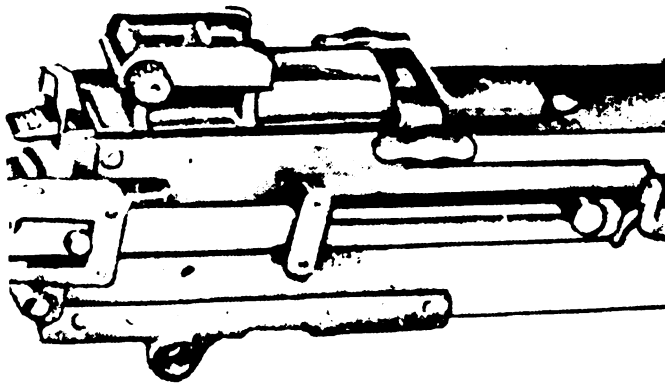


Figure 1

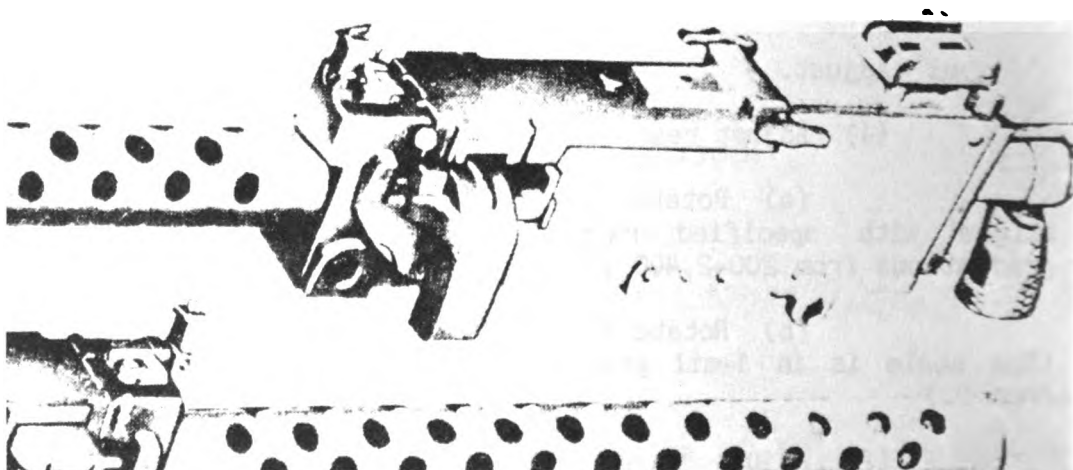


Figure 2

(3) Adjust headspace:

(a) Procedure with parts inside the receiver.

1. Insure gun is fully assembled minus flash hider.

2. Pull the bolt to the rear about three-fourths of an inch.

3. Screw the barrel into the barrel extension by placing the combination wrench into the barrel notches or around the muzzle. (See fig 3.) (Turn until the recoiling parts are unable to go forward under the pressure of driving spring when the bolt is released from three-fourths of an inch distance.)

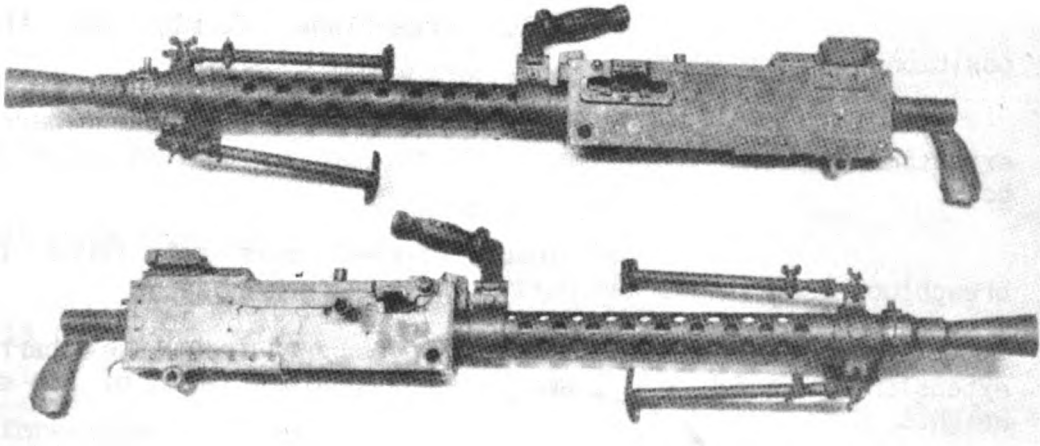


Figure 3

NOTE: Barrel notches will be visible.

4. Unscrew the barrel from barrel extension one notch at a time until the barrel and barrel extension go forward without being forced.

5. Unscrew the barrel two additional notches. (This compensates for heat expansion when gun is fired.)

(b) Procedure with parts outside the receiver (disassembled weapon):

1. Screw barrel and barrel extension together until the rear of barrel is flush with the inside of the barrel extension.

2. Remove extractor from the bolt.

3. Place bolt in the bolt guides of the barrel extension.

4. Push bolt forward.

5. Lock bolt to barrel and barrel extension.

a. Push breechlock into its recess in the bottom of the bolt.

b. Hold breechlock firmly in that position with the thumb.

c. Screw the barrel and barrel extension together until barrel is stopped by contact with the bolt.

d. Insure barrel does not force the breechlock from its locked position.

6. Unscrew the barrel from the barrel extension one notch at a time until breechlock falls of its own weight.

7. Remove the bolt.

8. Screw the barrel and barrel extension together one notch.

(c) Check to insure that the hook of the barrel locking spring is engaged in the barrel notches so headspace adjustment cannot change during firing.

b. Load within 60 seconds: (See fig. 4.)

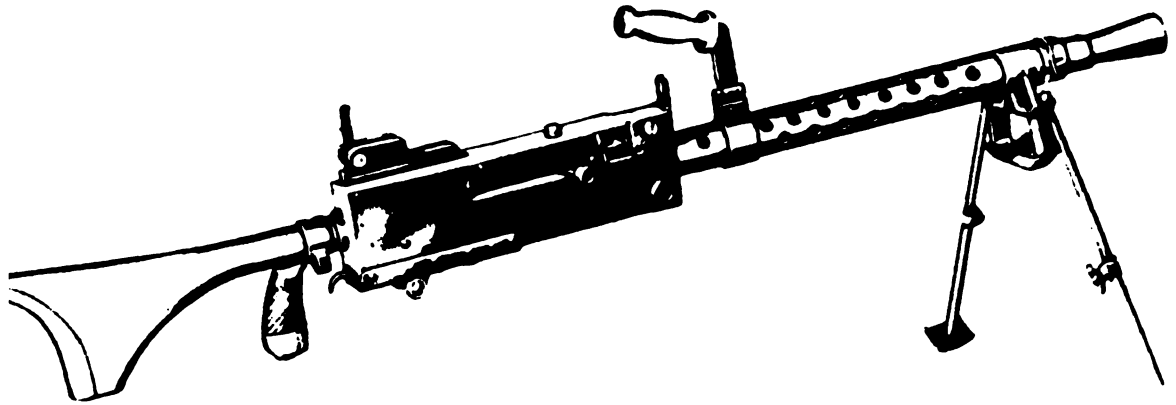


Figure 4

(1) Load a full belt with cover closed:

(a) Insert metal tab of the belt into the feedway from the left.

(b) Pull tab to the right until the first round is positioned to the right of the belt-holding pawl.

(c) With right hand palm up and thumb along the forefinger, pull bolt to the rear and release it.

(d) If metal tab is not attached, insert the double looped end into the feedway first.

(e) Pull bolt to the rear two times and release it each time to load weapon.

(2) Load a full belt with cover open:

(a) Position the initial round just to the right of the belt-holding pawl.

(b) Close cover.

(c) Pull bolt to the rear two times and release it each time to load weapon.

c. Fire weapon within 5 seconds. (Aim and fire.)

3. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 10 seconds:

(1) Wait 5 seconds.

(2) Pull operating handle to rear.

(3) Observe for ejected rounds, brass, or links.

(4) Push operating handle forward.

(5) Aim and attempt to fire.

b. If immediate action fails to reduce the stoppage, proceed as follows:

(1) If weapon fails to feed, check for

(a) Insufficient gas pressure. (Clean gas port.)

(b) Defective feed pawl or feed pawl spring. (Return to higher echelon.)

(c) Defective front and rear cartridge guides. (Return to higher echelon.)

(d) Defective cover latch. (Return to higher echelon.)

(e) Defective feed lever cam spring. (Return to higher echelon.)

(f) Defective cam roller. (Return to higher echelon.)

(g) Inadequate lubrication. (Apply lubricant.)

(h) Defective ammunition or link. (Insert new ammunition or link.)

(i) Ammunition belt installed wrong. (Reverse belt with open portion of link down.)

(j) Damaged or weakened operating rod spring.
(Replace spring.)

(k) Obstruction in receiver. (Remove
obstruction:

1. Wait 5 minutes (in case of cookoff).

2. Pull bolt to rear.

3. Holding cleaning rod about 6 inches from
the handle, insert it into muzzle.

4. Force the case from chamber with
cleaning rod. (CAUTION: Do not damage bolt face by striking it
when rod is pushed through bore.))

(2) If ammunition fails to chamber, check for:

(a) Ruptured cartridge case. (Remove cartridge
case:

1. Wait 5 minutes (in case of cookoff).

2. Raise cover and pull bolt to rear.

3. Place cartridge extractor in T-slot of
bolt as if it were a cartridge.

4. Align cartridge extractor with the bore
and insure that it is firm in the T-slot.

5. Let bolt go forward (this forces
extractor through ruptured case).

6. Pull bolt to rear.

7. Remove ruptured case and extractor.)

(b) Caked carbon in gas cylinder. (Remove
carbon.)

(c) Caked carbon in receiver. (Remove carbon.)

(d) Damaged round. (Remove round.)

(3) If weapon fails to fire, check for

(a) Damaged or broken firing pin. (Replace
firing pin.)

(b) Damaged or broken firing pin spring.
(Replace spring.)

(c) Faulty ammunition. (Replace ammunition.)

(d) Dirty chamber. (Clean or change barrel.)

(e) Weakened or damaged operating rod drive spring. (Replace spring.)

(4) If ammunition fails to extract, check for

(a) Broken extractor or spring. (Replace.)

(b) Short recoil. (Clean gas port and operating rod tube, and lubricate.)

(c) Gas piston installed backwards. (Install properly.)

(5) If ammunition fails to eject, check for

(a) Short recoil. (Clean gas port.)

(b) Frozen or damaged ejector or ejector spring.
(Clean or replace.)

(6) If weapon fails to cock, check for

(a) Broken sear. (Return to higher echelon.)

(b) Worn operating rod sear notch. (Return to higher echelon.)

(c) Broken or defective sear plunger or spring.
(Return to higher echelon.)

(d) Obstruction in receiver. (Clear as required.)

(e) Short recoil. (Clean gas port.)

4. If Sluggish Or Runaway Gun Conditions Occur, Proceed As Follows:

a. Sluggish operation due to excessive friction caused by dirt or carbon, improper lubrication, burred parts, or incorrect headspace adjustment:

(1) Clean and lubricate weapon.

(2) Inspect for and replace any burred parts.

(3) Adjust headspace.

b. Runaway gun (Weapon fires immediately upon loading or continues firing upon releasing trigger due to defective trigger mechanism, worn sear notch, or worn firing pin shoulders).

(1) Hold fire on target until feeding stops or ammunition is expended. (In cases of long ammunition belts, firing may be stopped by twisting belt to stop the feeding or by raising cover to stop feeding action.)

(2) Disassemble weapon and locate problem.

(3) Replace parts as necessary.

5. Unload And Clear Weapon Within 30 Seconds: (See fig. 4.)

a. Unload:

(1) Raise cover.

(2) Lift out belt.

(3) Close cover.

(4) Pull bolt to the rear and release it.

(5) Raise the trigger.

b. Clear:

(1) Pull bolt to rear and hold it.

(2) Engage extractor cam plunger in the notch in rear of the extractor feed cam.

(3) Inspect chamber and T-slot for rounds.

(4) Insert wooden block in receiver between bolt and rear of barrel.

(5) Insert cleaning rod in muzzle end of barrel.

(6) Push rod through bore until it can be seen in the receiver.

(7) Remove rod.

FM 31-11B-S

REFERENCE:

None

331-915-0132

MAINTAIN AN AMERICAN M1919A6 MACHINEGUN, MOUNT, AND AMMUNITION

CONDITIONS:

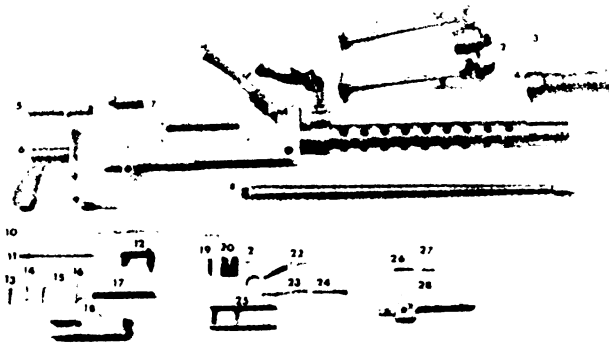
You will be given an M1919A6 machinegun; a mount; five rounds of ammunition; a combination wrench, cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

TANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 4 Minutes. (See fig. 1.)



LMG M1919A6 (US)

- | | | |
|-----------------------------------|-------------------------|----------------------|
| 1. Bipod Assembly | 10. Driving Rod Spring | 19. Accelerator Pin |
| 2. Lock Ring | 11. Driving Rod | 20. Accelerator |
| 3. Retaining Clip Assembly | 12. Extractor | 21. Trigger Pin |
| 4. Flash Hider | 13. Cocking Lever Pin | 22. Trigger |
| 5. Cover Latch | 14. Cocking Lever | 23. Barrel Plunger |
| 6. Backplate Group | 15. Sear Spring & Pin | Spring |
| 7. Receiver & Barrel Jacket Group | 16. Sear | 24. Barrel Plunger |
| 8. Barrel Group | 17. Firing Pin Assembly | 25. Lock Frame |
| 9. Bolt Handle | 18. Bolt | 26. Breech Lock Pin |
| | | 27. Breech Lock |
| | | 28. Barrel Extension |

Figure 1

a. Clear weapon within 10 seconds (leave bolt forward and cover open).

b. Remove shoulder stock:

- (1) Loosen wing nut on clamp assembly.
- (2) Slide stock assembly off buffer tube.

c. Remove bipod assembly:

- (1) Turn flash hider one-fourth turn.
- (2) Remove flash hider from barrel bearing.
- (3) Spread lockring slightly.
- (4) Slide lockring off over the barrel bearing.
- (5) Slide off bipod assembly.

d. Remove backplate group:

- (1) Place weapon on flat surface, receiver up.
- (2) Pull back on cover latch.
- (3) With left hand, pull back on bolt handle and hold it in its rearmost position.
- (4) With right hand, insert screwdriver end of combination wrench in the slit in the end of the driving spring rod.
- (5) With the slit horizontal, push in on the driving spring rod as far as it will go and turn it clockwise one-fourth turn until the slit is vertical.

CAUTION: The driving spring rod pin must be securely locked in its recess in the rear of the bolt before the backplate is removed.
--

(6) Push bolt handle forward 1 inch to clear the rear of the driving spring rod from the backplate.

(7) Push cover latch forward and lift up on the backplate to remove.

e. Remove bolt handle and bolt:

- (1) Pull bolt back.
- (2) Remove bolt handle to the right.
- (3) Remove bolt from the rear of the receiver.

f. Remove lock frame:

(1) Insert the punch portion of combination wrench through the hole in the right side of the receiver.

(2) Push in on the trigger pin.

(3) Hold trigger.

(4) Pull lock, frame, barrel extension, and barrel out of the rear of the receiver.

(5) Allow lower rear lugs of the barrel extension to hang down behind the bottom of the receiver.

NOTE: If resistance is met, pull on the spacer of the lock frame to avoid damage to the trigger.

(6) Hold lock frame in both hands and trip the accelerator.

(7) Separate the lock frame from the barrel extension.

g. Disassemble lock frame group:

(1) Remove accelerator.

(a) Drift out accelerator pin using the punch on combination wrench.

(b) Take out accelerator.

(2) Remove trigger.

(a) Withdraw trigger pin and spring from the right. (Do not separate spring and pin.)

(b) Lift out the trigger.

(3) Remove barrel plunger.

(a) Hold the lock frame with one hand, projections pointing upward, first and second fingers gripping the barrel plunger spring.

(b) Press down and out on the barrel plunger with the thumb of the other hand to disengage the barrel plunger guide pin from its slot.

(c) Allow barrel plunger and spring to rise slowly.

(d) Lift out the spring and plunger and separate the spring and plunger.

h. Disassemble bolt group:

(1) Raise the extractor and remove it from bolt.

CAUTION: When removing the driving spring and rod from the bolt, the force of the driving spring when released can cause the rod to jump from the hand and result in serious injury.
--

(2) Remove driving spring and rod.

(a) Place the protruding end of the rod on a wooden surface.

(b) Place the palm of one hand over the face of the bolt.

(c) Press down and simultaneously turn bolt one-fourth turn to the left, releasing the driving spring rod pin from its recess in the bolt.

(d) Slowly release pressure on bolt allowing it to rise until about 3 inches of the rod protrudes.

(e) Grasp the protruding portion of the rod and spring in the other hand.

(f) Separate bolt from rod and spring with a quick jerk.

(g) Separate the driving spring rod and spring.

(3) Remove cocking lever and pin:

(a) Rotate cocking lever to rear of bolt.

(b) Remove cocking lever pin from the left.

(c) Lift out cocking lever.

(4) Remove the sear.

(a) Hold bolt with the front toward the body.

(b) Push down on sear to release firing pin.

(c) Place the top of the cocking lever near the end of the sear spring away from the sear spring pin and push down and to the right on the spring to seat it in the recess in the bolt.

(d) Remove sear from bottom of bolt.

(5) Remove sear pin.

(a) Rotate sear spring back to its normal position.

(b) Insert punch of combination tool into the hole in bottom of bolt to start sear spring pin moving outward.

(c) Place top of cocking lever under the sear spring.

(d) Pry sear pin from top of bolt.

(6) Tilt rear end of bolt down and catch firing pin as it falls out.

i. Remove barrel and barrel extension from the receiver and unscrew the two parts.

j. Disassemble barrel extension:

(1) Remove barrel locking spring.

(a) Insert screwdriver end of combination wrench under the hook of barrel locking spring.

(b) Pull spring out.

(2) Remove breech lock.

(a) Drift out breech lockpin.

(b) Take out breech lock.

k. Remove cover latch by pulling it to rear and lifting from the top plate of the receiver.

1. Remove cover:

(1) Remove cotter pin from the castlenut (cover bolt nut).

(2) Place screwdriver end of combination wrench in the slit in the cover bolt.

(3) Engage screwdriver in slit to prevent bolt from turning.

(4) Unscrew the cover bolt nut.

(5) Remove cover bolt, cover catch spring, the fixed and movable plates, and cover.

NOTE: To prevent undue wear, the cover should not be removed except for cleaning or replacement of parts.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 6 Minutes.

a. Replace cover:

(1) Place cover catch spring on the cover bolt and position the fixed and movable plates.

(2) Place screwdriver end of combination wrench in the slot on the cover bolt.

(3) Engage screwdriver in slot to prevent bolt from turning.

(4) Screw the cover bolt nut on the cover bolt until the desired tension is obtained.

(5) Replace cotter pin.

b. Replace cover latch by pushing the top plate from the rear.

c. Reassemble and replace barrel extension group:

(1) Place breech lock into its slot (with the doubled beveled edge up and to the front).

(2) Insert breech lockpin until both ends are flush with the sides of barrel extension.

(3) Insert barrel locking spring in its recess, hook inward; push locking spring as far as it will go.

(4) Screw barrel extension together.

(5) Insure rear of the barrel is flush with the inside of the barrel extension.

(6) Place barrel and barrel extension into receiver.

(7) Allow lower rear lugs of barrel extension to hang down behind the bottom plate of the receiver.

d. Reassemble and replace lock frame group:

(1) Replace barrel plunger.

(a) Assemble barrel plunger and spring.

(b) Hold the lock frame as in disassembly.

(c) Seat the end of barrel plunger spring in the recess of the lock frame separator with the plunger guide pin facing the slot in the lock frame.

(d) Using first and second fingers of the other hand, guide the barrel plunger spring while the thumb pushes the barrel plunger head down until the plunger guide falls into its slot in the side of the lock frame.

CAUTION: Be careful not to release spring tension.

(2) Replace trigger.

(a) Insert front of trigger under the spacer and over the separator.

(b) Place the center of trigger in its square seating.

(c) Replace the trigger pin and spring.

(3) Replace accelerator, claws forward.

(4) Insert accelerator pin flush with sides of lock frame.

- (5) Hold lock frame in both hands.
 - (6) Keep accelerator claws in front of and against the T-lug on the barrel extension with the forefingers.
 - (7) Start the front projections of the lock frame into the recess in the barrel extension.
 - (8) Engage the concave surface of barrel plunger with barrel extension plunger stud on the T-lug.
 - (9) Press forward until the accelerator turns backward between the rear end of the barrel extension and T-lug.
 - (10) Press forward until the accelerator locks the lock frame to the barrel extension.
 - (11) Lock the frame to the barrel extension.
- NOTE: This will compress the barrel plunger spring.
- (12) Press accelerator tips down to insure positive locking.
 - (13) Guide the barrel, barrel extension, and lock frame into the rear of the receiver.
 - (14) Push these groups forward with the left hand, and with the right hand, push in on the trigger pin so that it clears the side of the receiver.

NOTE: The forward motion is continued until the trigger pin snaps into its recess in the side of the receiver.
--

e. Reassemble and replace bolt groups:

- (1) Place firing pin into the bolt, striker down and to the front.
- (2) Tilt front end of bolt down until striker projects through aperture in face of bolt.
- (3) Replace sear pin and spring.
 - (a) Insert sear pin in its recess.
 - (b) Push pin all the way down.
- (4) Replace sear.

(a) Hold bolt with the front towards your body.

(b) Place top of cocking lever near the end of the sear spring and away from the pin, push down and to the right to seat its edge in the recess in the bolt.

(c) With the sear platform toward the bolt, push sear upward from the bottom.

(d) Press down and to the left on the spring with top of cocking lever to engage the end of the spring in the sear.

(5) Replace cocking lever.

(a) Insert cocking lever, rounded nose down, top portion extending to rear, into its recess in the bolt.

(b) Align the pinhole in the cocking lever with the holes in the bolt.

(c) Insert cocking lever pin from the left.

CAUTION: When assembling the driving spring and rod into the bolt, remember that the force of the driving spring can cause the rod to jump from the hand and result in serious injury.

(6) Replace driving spring and rod.

(a) Place driving spring on the rod.

(b) Place the slit end of the rod resting on a wooden surface.

(c) Compress as much of the spring onto the rod as possible and hold.

(d) Hold the bolt by its face and slip the bolt over the end of the spring.

(e) Push down to compress spring and allow driving rod pin to enter the slot in the side of the bolt.

(f) Turn the bolt slowly one-fourth turn clockwise until the slit in the rod is vertical to the slot in the rear of the bolt and the pin is firmly engaged.

(7) Insert extractor stud in the rear hole or left side of bolt, extractor pointed up.

(8) Turn extractor down.

f. Replace bolt and bolt handle:

(1) Move extractor until it is in forward position and is all the way down against the stop.

(2) Move cocking lever forward.

NOTE: Do not press on the sear or driving spring rod.

(3) Grasp bolt by the rear end.

(4) Start bolt into receiver with the forward end slightly higher than the rear.

(5) Push down on the rear end of trigger to prevent the front of the bolt from tripping the accelerator.

(6) Slide front end of the bolt on its guides in the barrel extension.

(7) Raise the rear end of the bolt and push in horizontally.

(8) Align bolt handle hole in the bolt with the rear of the slot in the side of the receiver.

(9) Replace bolt handle.

NOTE: Make sure the bolt handle collar is positioned inside of the receiver before pushing the bolt fully forward.
--

g. Replace backplate group:

(1) Move cover latch forward so that the backplate may enter the backplate guideways.

(2) Replace backplate group.

(3) Pull cover latch to the rear, locking the backplate in place.

(4) Hold bolt handle to rear with the left hand.

(5) Place cartridge rim in the slit in the end of the driving spring rod.

(6) Turn cartridge one-fourth turn counterclockwise to release driving spring.

(7) Release bolt and allow it to go forward.

(8) Lower and latch cover.

NOTE: Insure extractor is down and belt feed lever stud is to the left.

(9) Raise trigger to release firing pin.

(10) Lower sight(s).

h. Replace shoulder stock:

(1) Slide stock onto the buffer tube.

(2) Tighten the wingnut.

i. Replace bipod assembly:

(1) Place bipod assembly on front barrel bearing.

(2) Replace lockring.

(3) Check retaining clip assembly to see that the pins are engaged in their notches in the side of the flash hider.

(4) Place flash hider on front barrel bearing.

(5) Align slots in flash hider with slots in the front barrel bearing.

(6) Push retaining clip assembly until it snaps into the slots in the bearing.

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Maintain Mount. (Follow procedures and use materials prescribed for the Soviet SGMB, task number 331-915-0123.)

7. Perform Function Check Within 10 Seconds.

a. Adjust headspace.

b. Pull operating handle to rear and release it.

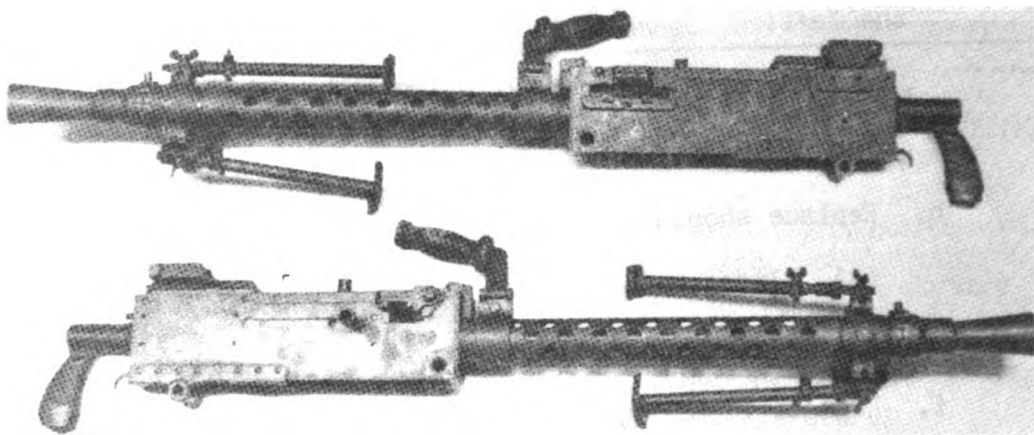


Figure 2

c. Press up on trigger (weapon should fire).

REFERENCES:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0143

IDENTIFY AND DESCRIBE SELECTED SUBMACHINEGUNS

CONDITIONS:

You will be given a 15-second view of each selected submachinegun or a 15-second view of a photograph, illustration, or model of each selected submachinegun.

STANDARDS:

1. Correctly Identify Each Submachinegun.
2. Describe Each Machinegun (2 minutes per gun).
 - a. Country of origin.
 - b. Military designation.
 - c. Cartridge type.
 - d. Type of feed.
 - e. Locking system.
 - f. System of operation.
 - g. Maximum effective range.

PERFORMANCE MEASURES:

1. Identify the L2A3. (See fig. 1.)
 - a. Country of origin: Great Britain.
 - b. Military designation: L2A3 Sterling submachinegun.
 - c. Cartridge type: 9 x 19mm Parabellum.
 - d. Type of feed: 34-round box magazine.



Figure 1

- e. System of operation: Blowback, selective fire.
- f. Maximum effective range: 100 meters.
- 2. Identify the M3A1. (See fig. 2.)
 - a. Country of origin: USA.
 - b. Military designation: M3A1 submachinegun.
 - c. Cartridge type: Caliber .45 ACP.
 - d. Type of feed: 30-round box magazine.
 - e. System of operation: Blowback, automatic only.
 - f. Maximum effective range: 100 meters.
- 3. Identify the M12. (See fig. 3.)
 - a. Country of origin: Italy.
 - b. Military designation: M12 submachinegun.

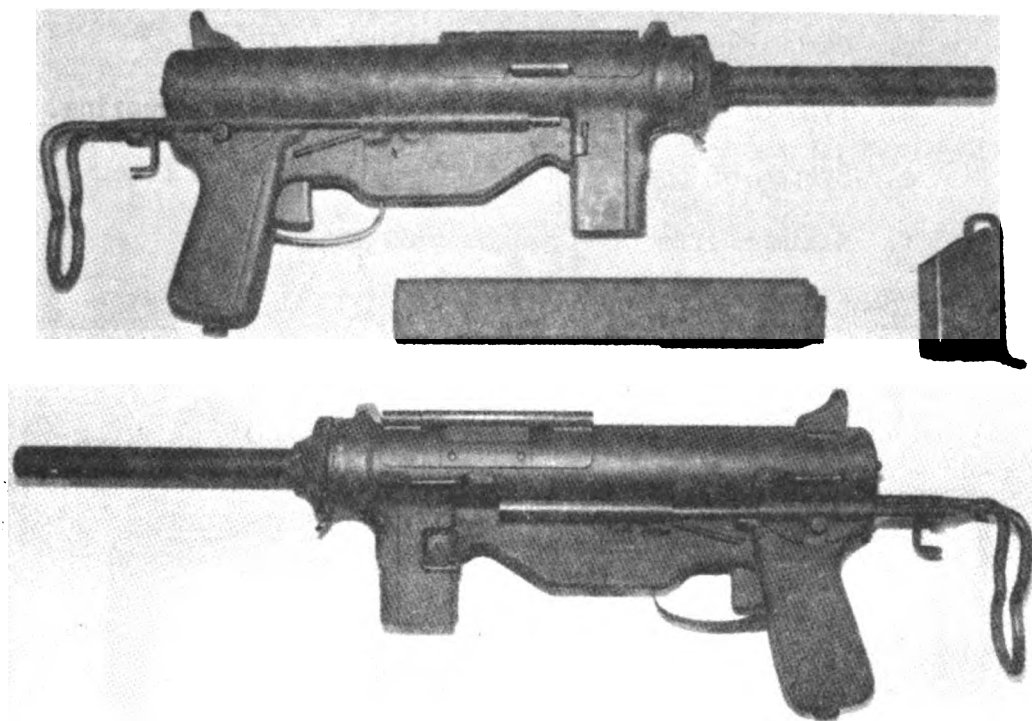


Figure 2



Figure 3

- c. Cartridge type: 9mm Parabellum.
 - d. Type of feed: 23-, 30-, or 40-round box magazine.
 - e. System of operation: Blowback, selective fire.
 - f. Maximum effective range: 100 meters.
4. Identify the UZI. (See fig. 4.)

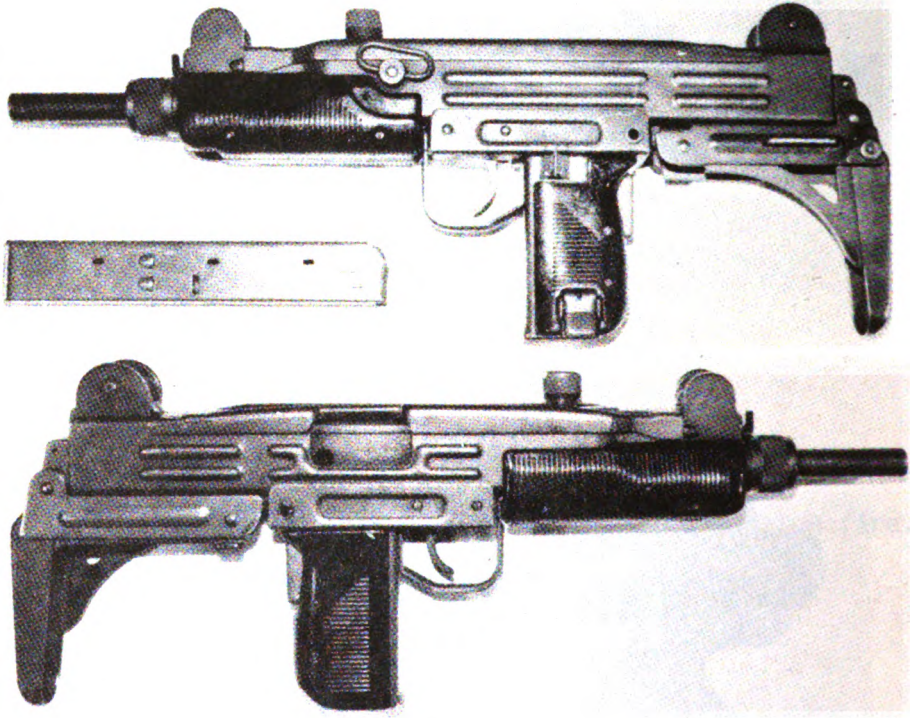


Figure 4

- a. Country of origin: Israel.
 - b. Military designation: UZI submachinegun.
 - c. Cartridge type: 9mm Parabellum.
 - d. Type of feed: 25-, 32-, or 40-round box magazine.
 - e. System of operation: Blowback, selective fire.
 - f. Maximum effective range: 100 meters.
5. Identify the M50. (See fig. 5.)

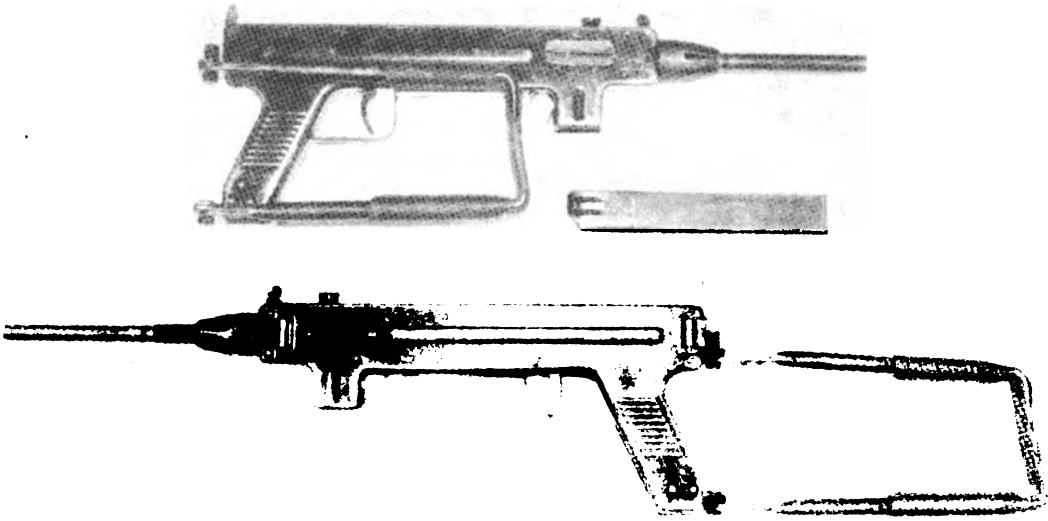


Figure 5

- a. Country of origin: Denmark.
 - b. Military designation: M50 submachinegun.
 - c. Cartridge type: 9 x 19mm Parabellum.
 - d. Type of feed: 32-round box magazine.
 - e. System of operation: Blowback, automatic only.
 - f. Maximum effective range: 100 meters:
6. Identify the M1A1. (See fig. 6.)
- a. Country of origin: USA.
 - b. Military designation: M1A1 submachinegun.
 - c. Cartridge type: Caliber .45 ACP.
 - d. Type of feed: 20- or 30-round box magazine.
 - e. System of operation: Blowback, selective fire.

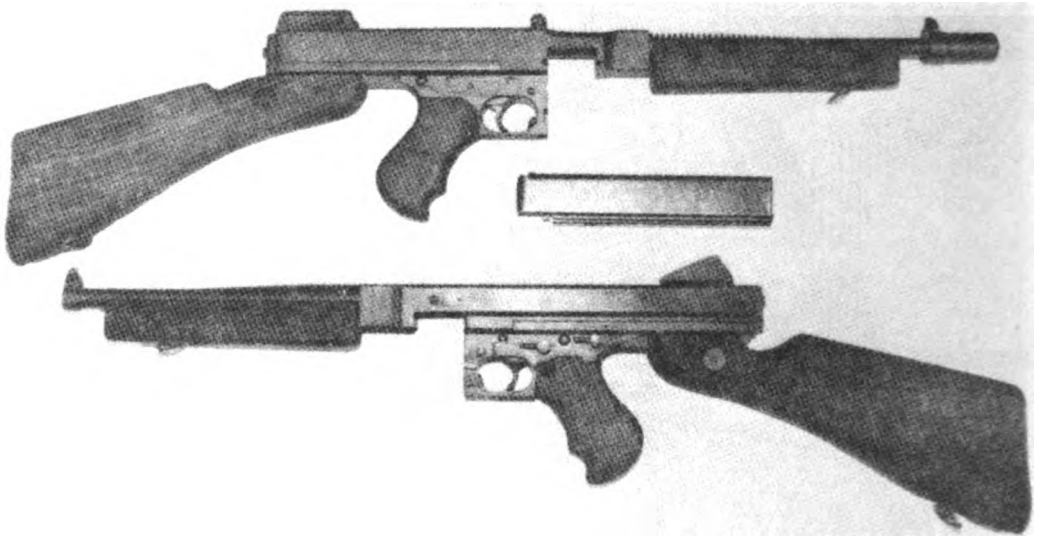


Figure 6

- f. Maximum effective range: 100 meters.
- 7. Identify the MP40. (See fig. 7.)
 - a. Country of origin: Germany.
 - b. Military designation: MP40 submachinegun.
 - c. Cartridge type: 9mm Parabellum.
 - d. Type of feed: 32-round box magazine.
 - e. System of operation: Blowback, automatic only.
 - f. Maximum effective range: 100 meters.
- 8. Identify the VZ23. (See fig. 8.)
 - a. Country of origin: Czechoslovakia.
 - b. Military designation: Model 23, submachinegun.
 - c. Cartridge type: 9 x 19mm Parabellum.



Figure 7



Figure 8

- d. Type of feed: 24- or 40-round box magazine.
 - e. System of operation: Blowback, selective fire.
 - f. Maximum effective range: 100 meters.
9. Identify the M45B. (See fig. 9.)

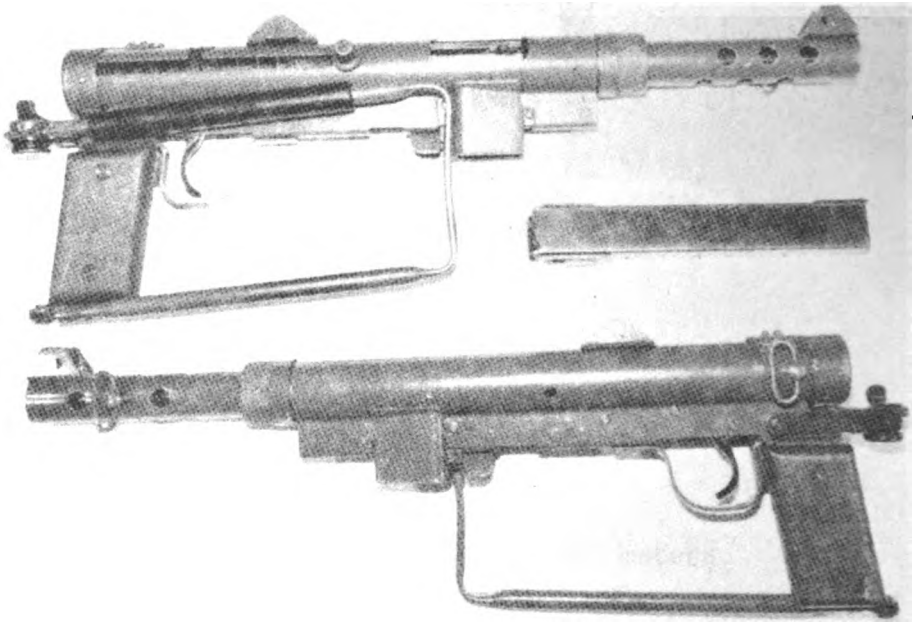


Figure 9

- a. Country of origin: Sweden.
 - b. Military designation: M45B submachinegun.
 - c. Cartridge type: 9mm Parabellum.
 - d. Type of feed: 36-round box magazine.
 - e. System of operation: Blowback, automatic only.
 - f. Maximum effective range: 100 meters.
10. Identify the PPSH41. (See fig. 10.)



Figure 10

- a. Country of origin: USSR.
 - b. Military designation: PPSH41 submachinegun.
 - c. Cartridge type: 7.62 x 25mm type "P" Soviet.
 - d. Type of feed: 35-round magazine or 71-round drum.
 - e. System of operation: Blowback, selective fire.
 - f. Maximum effective range: 100 meters.
11. Identify the MP5A3. (See fig. 11.)
- a. Country of origin: Germany.
 - b. Military designation: MP5A3.
 - c. Cartridge type: 9 x 19mm Parabellum.
 - d. Type of feed: 30-round box magazine.

e. System of operation: Delayed blowback, selective fire.

f. Maximum effective range: 100 meters.



Figure 11

REFERENCE:

None

331-915-0144

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
AN ISRAELI UZI SUBMACHINEGUN

CONDITIONS:

You will be given an UZI and a magazine containing 24 rounds of 9 x 19mm "P" ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon.

a. Adjust sight by flipping to specified range (100 or 200 yards). (See fig. 1.)

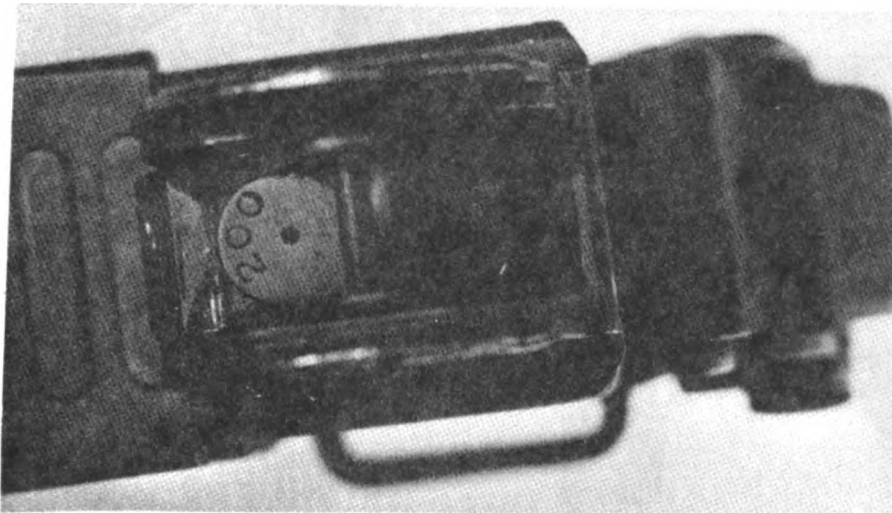


Figure 1

b. Load weapon within 10 seconds:

- (1) Press the grip safety.
- (2) Pull operating handle to rear and release it.
- (3) Insert magazine in bottom of grip and push up until catch snaps.
- (4) Place the safety on "SAFE" (rear position).

c. Fire weapon within 10 seconds:

- (1) Push safety button forward to "FIRE" position, "A" for "AUTOMATIC," and "R" for "SEMI-AUTOMATIC."
- (2) Grip pistol firmly and depress grip safety.
- (3) Aim and fire.

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage.

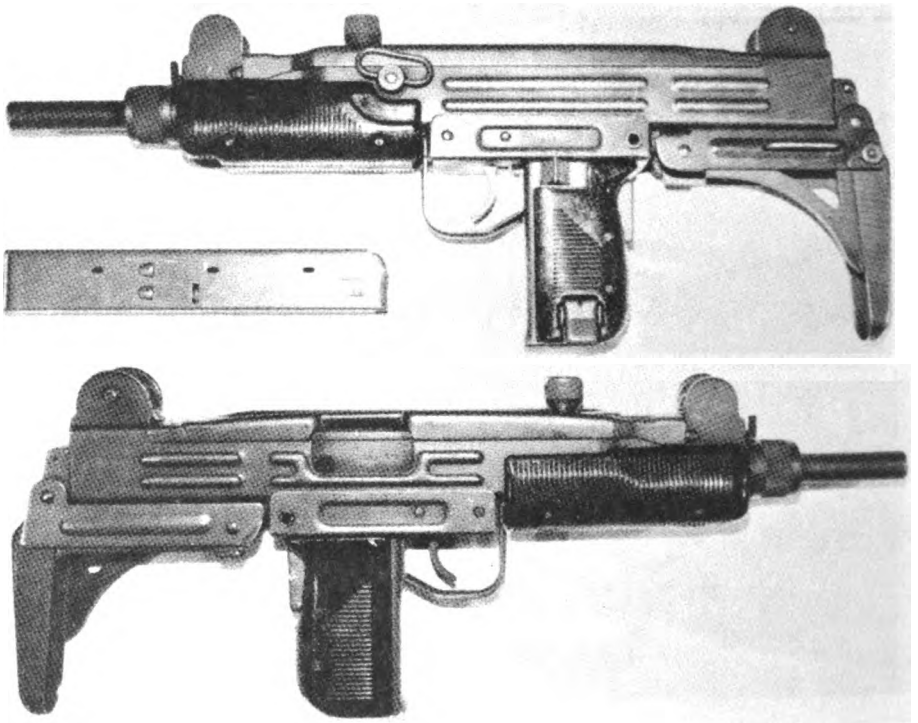


Figure 2

a. Apply immediate action in accordance with procedures outlined for the British L2A3 submachinegun, task number 331-915-0150.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.

3. Unload And Clear The Weapon Within 10 Seconds.

a. Unload:

- (1) Remove the magazine.
- (2) Press grip safety.
- (3) Pull operating handle to rear.

b. Clear:

- (1) Look into ejection port to insure no cartridge is present.
- (2) Hold the operating handle with one hand.
- (3) Press grip safety and pull trigger with one hand while allowing bolt to go forward under your control.
- (4) Place safety lever on "S," "SAFE."

REFERENCE:

TEC Lesson 011-331-0144, Operate an Israeli UZI Submachinegun

331-915-0145

MAINTAIN AN ISRAELI UZI SUBMACHINEGUN, MAGAZINE, AND AMMUNITION

CONDITIONS:

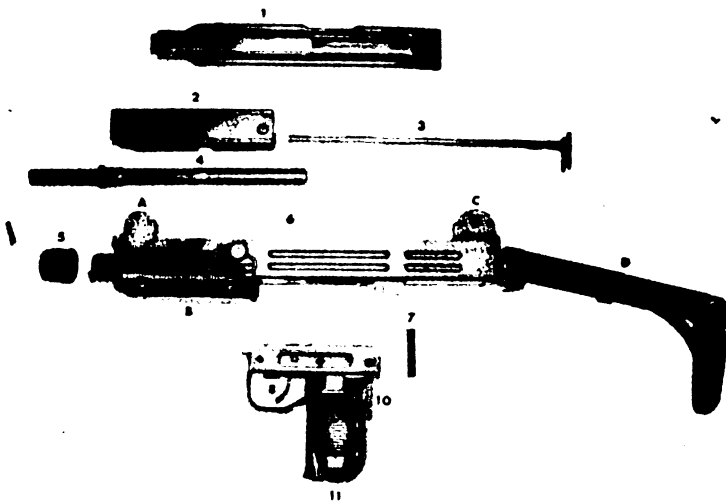
You will be given an UZI; five rounds of 9 x 19mm "P" ammunition; one magazine; a cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes.



ISRAELI UZI SUBMACHINE GUN

- | | | |
|-----------------------------|--------------------|--------------------|
| 1. (RECEIVER) COVER | 6. UPPER RECEIVER | 7. PIVOT PIN |
| 2. BOLT | A. FRONT SIGHT | 8. TRIGGER |
| 3. DRIVING SPRING AND GUIDE | B. FRONT HANDGUARD | 9. SELECTOR |
| 4. BARREL | C. REAR SIGHT | 10. GRIP SAFETY |
| 5. BARREL NUT | D. FOLDING STOCK | 11. MAGAZINE CATCH |

Figure 1

3-603

a. Clear weapon within 10 seconds, leaving magazine out and safety off.

b. Remove cover:

(1) Press cover latch.

(2) Raise cover and remove it from receiver.

c. Remove bolt by pulling it slightly to rear and swinging its front end up and out of receiver.

d. Disassemble bolt and driving spring:

(1) Separate bolt and driving spring from receiver.

(2) Separate bolt and driving spring.

e. Remove barrel:

(1) Press in the barrel nut lock.

(2) Unscrew the barrel nut.

(3) Pull barrel forward and out of receiver.

f. Remove split pin and sleeve.

g. Separate the trigger group and pistol grip from the receiver.

h. Remove butt:

(1) Remove metal butt by unscrewing the hexagonal nut retaining the butt (nut located in the rear of receiver).

(2) Remove wooden butt by pressing in on butt retaining catch and pulling butt to the rear.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Reassemble Weapon Within 4 Minutes.

a. Replace butt:

(1) Replace wooden butt by aligning butt with grooves and pushing forward until retaining catch locks.

(2) Replace metal butt by aligning butt with grooves and screwing in hexagonal nut retaining the butt.

b. Replace the trigger group and pistol grip to the receiver.

c. Replace the split pin and sleeve in which split pin is housed.

d. Replace barrel:

(1) Insert barrel and turn until it is seated.

(2) Screw in the barrel nut until it engages the barrel nut lock.

(3) Press in on barrel nut lock and tighten barrel nut until it stops.

(4) Release barrel nut lock.

e. Assemble bolt and driving spring:

(1) Assemble driving spring to bolt.

(2) Insert bolt and driving spring into receiver.

f. Replace bolt by sliding bolt slightly to rear and simultaneously pressing the front end down and into receiver.

g. Replace receiver cover:

(1) Lower it over the receiver.

(2) Press cover down until it is locked by the cover latch.

5. Maintain Magazine. (See fig. 2.) (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

6. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform A Function Check Within 20 Seconds.

a. Try to pull cocking handle to the rear without depressing grip safety (cocking handle should not move to rear).

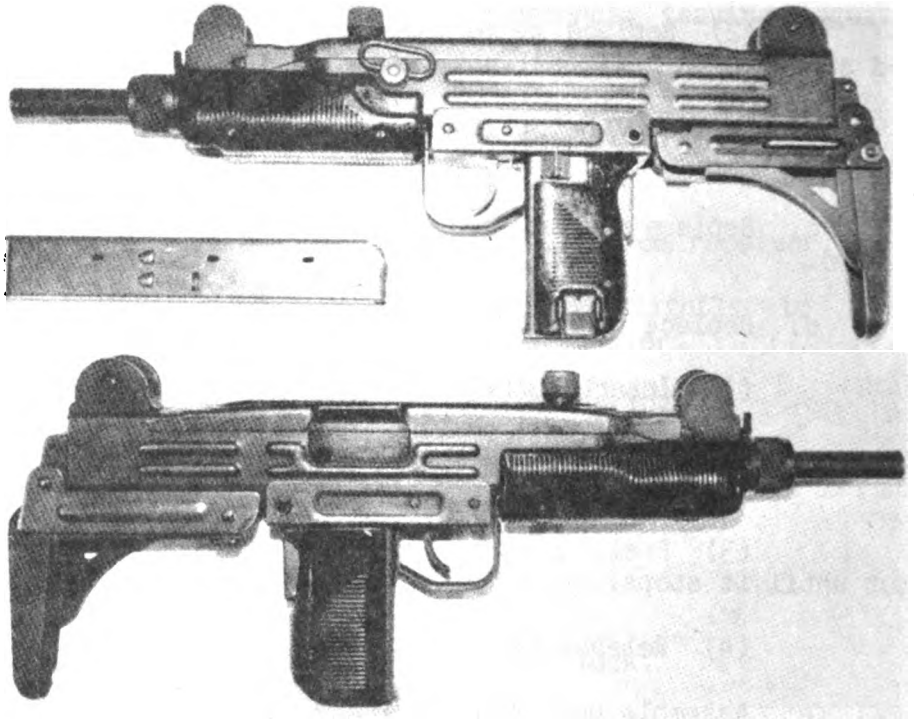


Figure 2

- b. Press in on grip safety.
- c. Pull cocking handle to rear and release it.
- d. Place selector lever on "SAFE."
- e. Press grip safety and pull trigger simultaneously.
(Bolt should not go forward.)
- f. Release grip safety and trigger.
- g. Place selector lever in middle position
("SEMI-AUTOMATIC FIRE").
- h. Press grip safety and pull trigger (bolt should go forward).
- i. Keeping grip safety and trigger depressed, pull operating handle to rear and release it (bolt should not go forward).

j. Release grip safety and trigger.

k. Place selector lever in the forward position ("AUTOMATIC FIRE").

l. Press grip safety and pull trigger (bolt should go forward).

m. Keeping grip safety and trigger depressed, pull operating handle to rear and release it (bolt should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

TEC Lesson 011-331-0145, Maintain an Israeli UZI Submachinegun.

331-915-0146

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR AN AMERICAN M3A1 SUBMACHINEGUN

CONDITIONS:

You will be given an M3A1 and a magazine containing 29 rounds of caliber .45 ACP ammunition and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Load And Fire Weapon.



Figure 1

a. Load within 10 seconds:

- (1) Pull bolt sharply to rear (cock).
- (2) Close cover (lock).
- (3) Insert magazine and push up until magazine catch locks with magazine notch.

b. Fire within 5 seconds:

- (1) Raise cover (unlock).
- (2) Aim and fire.

NOTE: Weapon has no semiautomatic mode of fire; however, single shots can be fired by pressing and quickly releasing the trigger.

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage. (Follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.)

3. Unload And Clear Weapon Within 10 Seconds.

a. Unload:

- (1) Remove magazine.
- (2) Raise cover.
- (3) Be sure bolt is to rear.

b. Clear:

- (1) Inspect chamber.
- (2) Pull trigger and allow bolt to go forward.
- (3) Close cover.

REFERENCE:

None

331-915-0147

MAINTAIN AN AMERICAN M3A1 SUBMACHINEGUN, MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given an M3A1; five rounds of caliber .45 ACP ammunition; a magazine; cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 30 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes.
 - a. Clear weapon within 10 seconds.
 - b. Remove stock:
 - (1) Press in on stock catch on left side of pistol grip.
 - (2) Remove stock by pulling it to rear.
 - c. Remove trigger guard:
 - (1) Place one side of shoulder rest against the housing assembly, the other side against trigger guard.
 - (2) Pry trigger guard out of pistol grip.
 - (3) Turn trigger guard toward front of weapon.
 - (4) Unhook trigger guard from housing assembly.
 - d. Remove housing assembly by pulling up and to the rear.

e. Remove magazine catch assembly by turning it toward right side of receiver.

f. Remove barrel:

(1) Be sure bolt is forward.

(2) Depress barrel ratchet and unscrew barrel, using the stock as a wrench. (Do not allow barrel ratchet to contact barrel collar notches when removing or replacing barrel.)

g. Remove bolt and guide rod group by opening cover and withdrawing them from receiver.

h. Remove trigger and sear group:

(1) Drift sear pin out (using magazine catch, ejector, or oiler stylus as a drift).

(2) Remove trigger pin.

(3) Remove trigger and sear group from receiver. (Do not drop connector pin.)

i. Disassemble bolt and guide rod group:

(1) Compress driving springs.

(2) Remove guide rod retaining clip.

(3) Remove guide rod locating plate.

(4) Remove bolt and driving springs from guide rod.

(5) Remove extractor (only for replacement):

(a) Drift out extractor pin (from small end, bottom of bolt).

(b) Lift extractor out using a pointed object.

j. Disassemble trigger and sear group:

(1) Drift out connector pin.

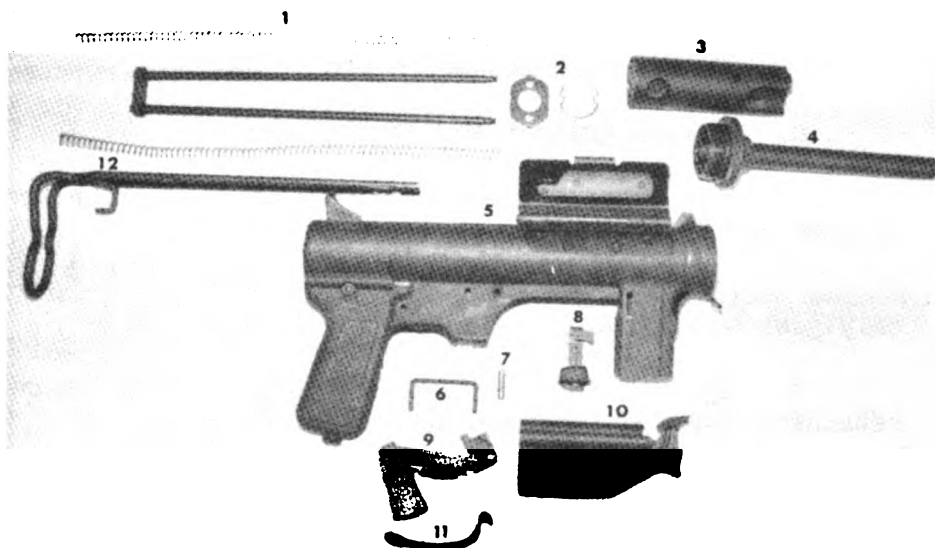
(2) Remove sear.

(3) Unfasten trigger spring from connector. (Do not remove from trigger.)

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Reassemble Weapon Within 4 Minutes.



SMG M3A1 USA

- | | |
|------------------------------------|-----------------------------|
| 1. Recoil Spring & Guide | 7. Sear Pin |
| 2. Locating Plate & Retaining Clip | 8. Magazine Catch |
| 3. Bolt | 9. Trigger Connector & Sear |
| 4. Barrel | 10. Housing Assembly |
| 5. Receiver | 11. Trigger Guard |
| 6. Trigger Pin | 12. Stock |

Figure 1

a. Reassemble bolt and guide rod group:

(1) Replace extractor so notch and hole in bolt are aligned.

(2) Firmly seat extractor pin and stake in place with center punch.

(3) Place driving springs on guide rods.

(4) Compress driving springs.

(5) Place bolt on guide rods (firing pin away from guide rod retaining plate).

(6) Replace guide rod locating plate and retaining clip.

b. Reassemble trigger and sear group:

(1) Fasten trigger spring to connector.

(2) Place sear on connector (sear nose up and to rear).

(3) Replace connector pin.

c. Replace trigger and sear group:

(1) Place trigger and sear group in receiver aligning trigger and receiver pin holes.

(2) Replace trigger pin (front arm of trigger pin only goes through holes in receiver, no other parts).

d. Replace bolt and guide rod group in receiver with retaining plate to rear and sear notch down.

e. Close cover.

f. Replace barrel:

(1) Depress barrel ratchet.

(2) Replace barrel by screwing barrel collar down until it fits snugly against receiver.

g. Replace magazine catch assembly.

h. Replace housing assembly:

(1) Place front projection on housing assembly into its magazine guide recess.

(2) Press housing rear end into place.

i. Replace trigger guard:

(1) Insert forward end of trigger guard into its housing assembly slot.

(2) Rotate it rearward. (Do not use force.)

(3) Press rear end of trigger guard until it snaps into its pistol grip slot.

j. Replace stock:

- (1) Align stock with holes in rear of receiver.
- (2) Press in stock catch.
- (3) Insert the stock.

6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 10 Seconds.

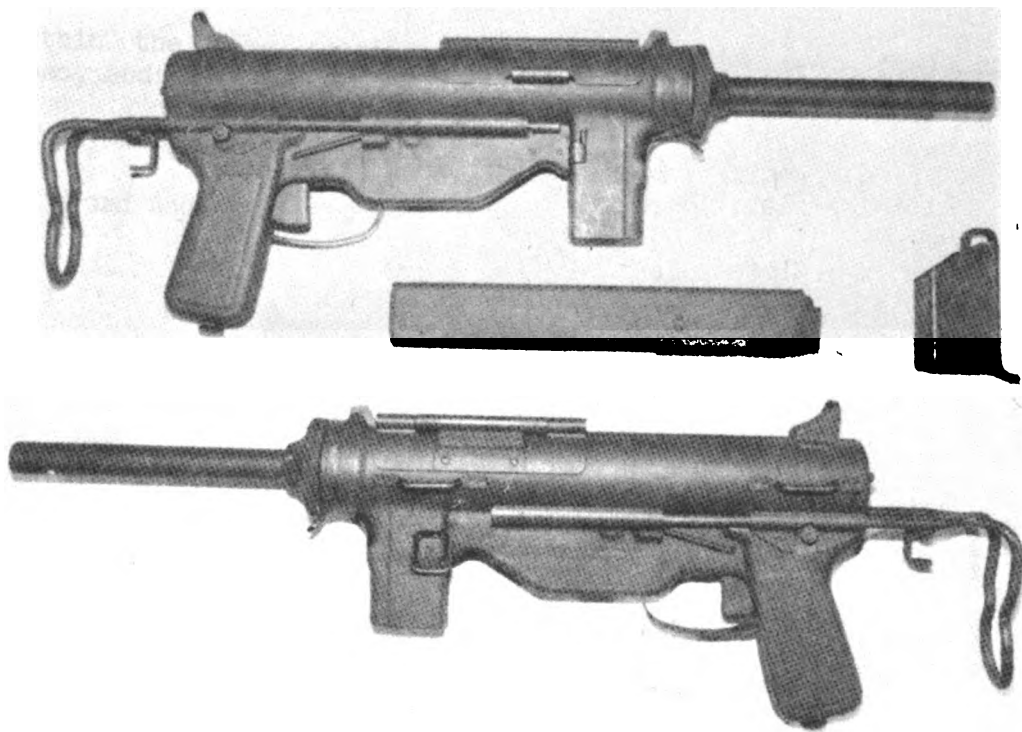


Figure 2

- a. Pull bolt sharply to rear (sear should hold it).
- b. Close cover.
- c. Depress trigger (bolt should not go forward).
- d. Open cover.
- e. Depress trigger (bolt should go forward).

- f. Hold trigger and pull bolt to rear.
- g. Release bolt (bolt should go forward).

REFERENCES:

FM 23-41, Submachineguns, Caliber .45, M3 and M3A1, 28 Jun 74 (chap 2, sec V, pages 35-38, and sec VII, pages 41-44)
FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0148

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
AN AMERICAN THOMPSON M1A1 SUBMACHINEGUN

CONDITIONS:

You will be given an M1A1 and a magazine containing 29 rounds of caliber .45 ACP ammunition and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Load And Fire Weapon.



Figure 1

a. Load within 10 seconds:

- (1) Pull operating handle to rear until bolt is caught by the sear.
- (2) Turn the safety lever to safe.
- (3) Insert rib at back of magazine in its recess at the front of the trigger guard.
- (4) Push in until magazine catch engages with a click.

b. Fire within 5 seconds:

- (1) Rotate selector lever to desired type of fire (rear, "SEMI-AUTOMATIC," or front, "AUTOMATIC").
- (2) Rotate safety lever to "FIRE."
- (3) Aim, press trigger, and fire.

2. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 5 seconds:

- (1) Remove magazine.
- (2) Pull operating handle to rear and inspect chamber.
- (3) Attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0073.

3. Unload And Clear Weapon Within 10 Seconds.

a. Unload by removing magazine.

b. Clear:

- (1) Put weapon on "SAFE."
- (2) Inspect chamber.

REFERENCE:

None

331-915-0149

**MAINTAIN AN AMERICAN THOMPSON M1A1 SUBMACHINEGUN,
MAGAZINE, AND AMMUNITION**

CONDITIONS:

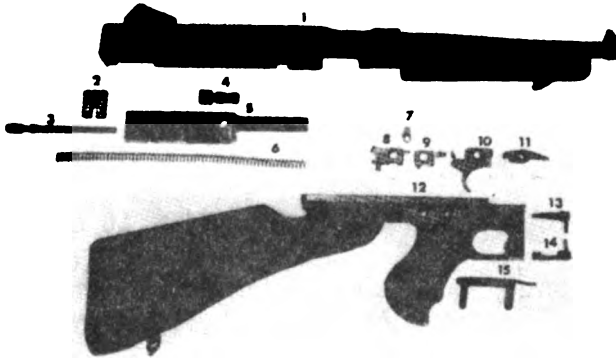
You will be given an M1A1; five rounds of caliber .45 ACP ammunition; a magazine; cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 60 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes.



SMG M1A1 USA

- | | |
|----------------------------|--------------------------|
| 1. Barrel & Receiver Group | 9. Sear Lever |
| 2. Buffer Pad | 10. Trigger & Disconnect |
| 3. Buffer Pilot | 11. Trip |
| 4. Bolt Handle | 12. Fram Group |
| 5. Bolt | 13. Rocker Pivot |
| 6. Recoil Spring | 14. Safety |
| 7. Sear | 15. Pivot Plate |
| 8. Rocker | |

Figure 1

a. Clear weapon within 10 seconds leaving magazine out, safety off, and selector lever on "AUTOMATIC" or "FULL AUTO."

b. Place weapon on a flat surface. (Sights down, muzzle to the left.)

c. Remove frame:

(1) With bolt forward, push in on the frame latch.

(2) With other hand, press trigger and pull frame straight back, out of its guides in the receiver.

d. Remove recoil spring:

(1) Push in on plug on end of buffer pilot and lift out the buffer pad.

(2) Holding buffer pilot, pull bolt back about halfway.

(3) Withdraw the recoil spring and pilot from the rear of receiver.

e. Remove bolt:

(1) Align the bolt handle with the low cut in the center of the slot.

(2) Lift rear of bolt.

(3) Pull out bolt handle.

(4) Slide the bolt back and lift it out of receiver.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Reassemble Weapon Within 4 Minutes.

a. Lay barrel and receiver on a flat surface, sights down, muzzle to the left.

b. Replace bolt:

(1) Place the bolt into the receiver so that the bolt handle hole is in the center of the half circle in the receiver.

(2) Insert the bolt handle.

c. Replace recoil spring:

(1) Insert the buffer pilot into the recoil spring.

(2) Hold bolt midway while applying pressure down and rearward with the bolt handle.

(3) From the outside of the receiver, insert the recoil spring and buffer pilot through the buffer pilot hole.

(4) Slide bolt forward slowly as recoil spring and buffer pilot are inserted.

(5) Replace the buffer pad when the buffer pilot is pushed in flush with the outside of the receiver.

d. Replace frame:

(1) Align the frame with the guides in the receiver.

(2) Press trigger and slide frame forward until the receiver locking catch locks.

6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 20 Seconds.

a. Pull operating handle rear until bolt locks.

b. Place safety lever on "SAFE."

c. Rotate selector to "SEMI-AUTOMATIC" position.

d. Depress trigger (bolt should not go forward).

e. Push up safety lever ("FIRE").

f. Depress trigger (bolt should go forward).

g. Pull operating handle to rear until bolt locks.

h. Rotate selector until it points to front ("AUTOMATIC").

i. Depress trigger (bolt should go forward).



Figure 2

j. With trigger depressed, pull operating handle to rear and release it (bolt should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0150

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR A BRITISH L2A3 SUBMACHINEGUN

CONDITIONS:

You will be given an L2A3 and a magazine containing 33 rounds of 9 x 19mm "P" ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.

a. Adjust the rear sight by flipping it to specified range (50-100 meters).



Figure 1

b. Load: (See fig. 2)



Figure 2

(1) Pull operating handle to rear and then ease forward until bolt is caught by the sear.

(2) Rotate selector to rear ("SAFE") position.

(3) Insert loaded magazine into magazine housing until it snaps into place.

c. Fire:

(1) Rotate selector to "AUTOMATIC" (A) or "REPEAT" (R).

(2) Aim and fire.

2. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 5 seconds:

(1) Remove magazine.

(2) Pull operating handle to rear and inspect chamber.

(3) Replace magazine.

(4) Attempt to fire.

b. If immediate action fails to reduce the stoppage, follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.

3. Unload and Clear Weapon Within 10 Seconds.

a. Pull back the operating handle until it locks to the rear.

b. Press magazine release and pull magazine out.

c. Inspect chamber.

d. Hold operating handle, press trigger, and ease the bolt forward under your control.

e. Place weapon on "SAFE."

REFERENCE:

None

331-915-0151

MAINTAIN A BRITISH L2A3 SUBMACHINEGUN, MAGAZINE, AND AMMUNITION

CONDITIONS:

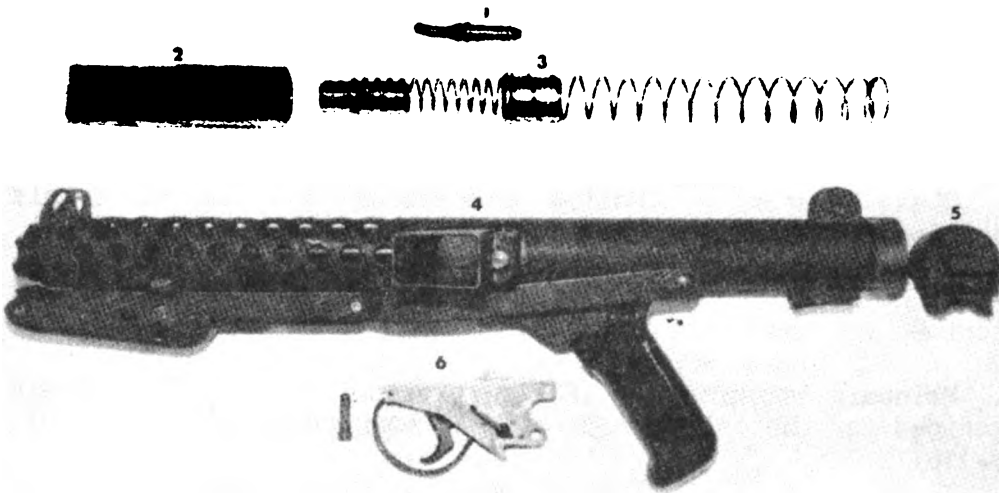
You will be given an L2A3, five rounds of 9 x 19mm "P" ammunition; a magazine, cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes.



SMG L2A3 BRITISH

- | | |
|--------------------------|------------------------|
| 1. Cocking Handle | 4. Barrel & Receiver |
| 2. Bolt | 5. Receiver Cap |
| 3. Recoil Spring & Guide | 6. Trigger Group & Pin |

Figure 1

a. Clear weapon within 10 seconds but leave magazine out and safety off.

b. Remove receiver cap:

(1) Press receiver cap lock; push receiver cap forward and rotate it counterclockwise.

(2) When receiver cap lugs disengage, ease cap rearward and remove it.

c. Remove operating handle:

(1) Pull operating handle rearward until it aligns with circular hole at end of its slot.

(2) Pull handle outward to remove.

d. Pull driving spring out.

e. Remove bolt by placing hand over open rear end of receiver, elevating the muzzle and pressing trigger.

f. Remove trigger group:

(1) Rotate head of trigger group retaining pin so slot aligns with "FREE" marking.

(2) Pull pin out.

(3) Pull trigger to rear; swing its front end up and out.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Reassemble Weapon Within 3 Minutes.

a. Replace trigger group:

(1) Engage lip at front end of trigger group with its seat in receiver and swing its rear end into place.

(2) Push trigger group forward to seat.

(3) Insert trigger group retaining pin, seat it, and turn its slot so that it aligns with "LOCK" marking.

b. Replace bolt:

(1) Insert bolt into receiver with the large cutaway portion at the front so that it lines up with magazine housing.

(2) Press trigger and push bolt forward (may be necessary to twist bolt to align it with ejector).

c. Replace operating handle:

(1) Move bolt rearward until operating handle hole aligns with hole at end of operating handle slot.

(2) Insert operating handle, concave surface forward.

(3) Press trigger and slide bolt forward (may need to push in on firing pin).

d. Insert driving spring unit into receiver, small end first.

e. Replace receiver cap:

(1) Place receiver cap over end of spring, depress receiver cap lock, and press cap forward over receiver.

(2) When cap is properly seated, twist it clockwise until it locks.

7. Perform Function Check Within 20 Seconds.

a. Pull operating handle to rear until bolt locks.

b. Place selection on "S" ("SAFE").

c. Depress trigger (bolt should not go forward).

d. Place selector on "R" ("SEMI-AUTOMATIC").

e. Depress trigger (bolt should go forward).

f. Keeping the trigger depressed, pull operating handle to rear and release it (bolt should not go forward).



Figure 2

g. Release trigger and place selector on "A" ("AUTOMATIC").

h. Depress trigger (bolt should go forward).

i. Keeping trigger depressed, pull operating handle to rear and release it (bolt should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0152

**LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD,
AND CLEAR AN ITALIAN BERETTA M12 SUBMACHINEGUN**

CONDITIONS:

You will be given an M12 and a magazine containing 19 rounds of 9mm Parabellum ammunition and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Load And Fire Weapon.



Figure 1

a. Load within 10 seconds:

- (1) Press safety button to the left ("SAFE").
- (2) Squeeze the grip safety.
- (3) Pull operating handle back and ease it forward until it is caught by the sear.
- (4) Insert a loaded magazine into magazine well until magazine catch snaps into place.

b. Fire within 5 seconds:

- (1) Press the selector to the required firing mode (right for "SEMI-AUTOMATIC" or left for "AUTOMATIC" fire).
- (2) Press the safety button to the right ("FIRE").
- (3) Squeeze the grip safety.
- (4) Aim and press the trigger.

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

3. Unload And Clear Weapon Within 10 Seconds.

a. Unload:

- (1) Press magazine catch.
- (2) Remove magazine.

b. Clear:

- (1) Pull operating handle back and ease forward.
- (2) Inspect chamber through ejection port for cartridges.
- (3) Hold operating handle and squeeze both safety and trigger while easing operating handle forward.
- (4) Push safety button to left ("SAFE").

REFERENCE:

None

331-915-0153

**MAINTAIN AN ITALIAN BERETTA M12 SUBMACHINEGUN,
MAGAZINE, AND AMMUNITION**

CONDITIONS:

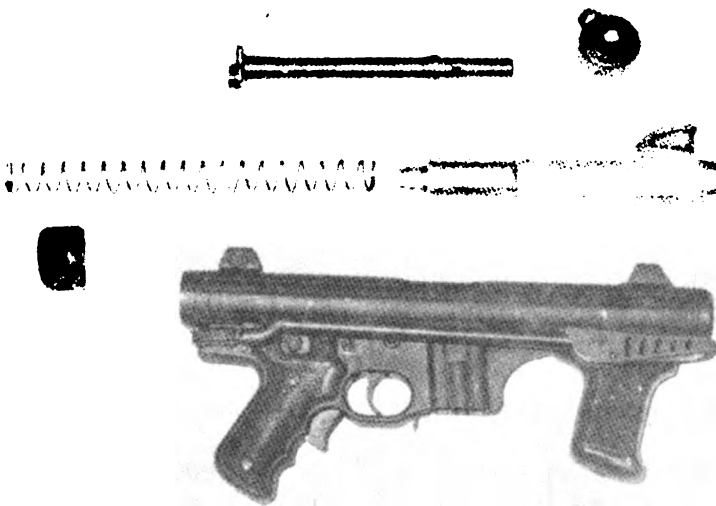
You will be given an M12; five rounds of 9mm Parabellum ammunition; a magazine, cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts.. (See figs. 1 and 2.)
2. Disassemble Weapon Within 3 Minutes.



SMS M12 BERETTA ITALY

- | | |
|-----------------------|-------------------|
| 1. Barrel | 4. Bolt |
| 2. Barrel Locking Nut | 5. Receiver Cap |
| 3. Recoil Spring | 6. Receiver Group |

Figure 1

3-633

a. Clear weapon within 10 seconds. (Do not put on "SAFE" or insert magazine.)

b. Remove barrel and bolt assembly:

(1) Depress barrel nut catch and unscrew barrel nut.

(2) Pull barrel nut, barrel, and bolt forward, out of receiver.

c. Separate barrel and bolt assembly:

(1) Twist barrel nut until it aligns with its grooves in the barrel.

(2) Pull barrel up, then to rear, and remove from bolt.

d. Remove driving spring:

(1) Depress receiver cap catch and unscrew receiver cap.

(2) Remove cap and driving spring.

e. Remove trigger group:

(1) Push out trigger-group pin retainer.

(2) Push out trigger-group pin.

(3) Pull trigger group down out of receiver.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Reassemble Weapon Within 4 Minutes.

a. Replace trigger group:

(1) Engage the rear of trigger group with receiver and swing it up into place.

- (2) Install trigger group pin.
- (3) Install trigger group pin retainer.
- b. Replace driving spring:
 - (1) Slide spring into receiver.
 - (2) Depress receiver cap catch.
 - (3) Screw cap onto receiver.
- c. Connect barrel and bolt assembly:
 - (1) Slide muzzle end of barrel through ring on front of bolt.
 - (2) Place the flange from the rear of the barrel in front of bolt face.
 - (3) Slip barrel nut onto barrel.
 - (4) Align ribs on nut with grooves on outside of band.
 - (5) Seat nut against solid shoulder of barrel.
- d. Replace barrel and bolt assembly:
 - (1) Insert barrel and bolt assembly into front of receiver.
 - (2) Depress band nut catch and screw band nut into receiver.
7. Perform Function Check Within 20 Seconds.
 - a. Press grip safety and pull bolt to rear until it locks.
 - b. Push safety button to right ("SAFE").
 - c. Squeeze safety grip and press trigger (bolt should not go forward).
 - d. Press selector to right ("SEMI-AUTOMATIC").
 - e. Push safety button to left ("FIRE").



Figure 2

f. Squeeze safety grip and press trigger (bolt should go forward).

g. Press selector to left ("AUTOMATIC").

h. With trigger and grip safety depressed, pull bolt to rear and release it. (Bolt should go forward.)

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0154

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE,
UNLOAD, AND CLEAR A SWEDISH M45B SUBMACHINEGUN

CONDITIONS:

You will be given an M45B and a magazine containing 29 rounds of 9mm Parabellum ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon Within 20 Seconds.

a. Adjust within 5 seconds:

- (1) Pull stock away from weapon and lock for firing.
- (2) Flip rear sight to specified range (100, 200, or 300 meters).

b. Load within 10 seconds:

- (1) Pull operating handle out and to rear, turning the operating handle up into the safety notch.
- (2) Insert the magazine into the magazine housing until the magazine catch engages.

c. Fire within 5 seconds:

- (1) Pull operating handle slightly to rear and rotate it down and out of its safety notch.
- (2) Slide the bolt forward until it is caught by the sear.
- (3) Aim and press trigger to fire.

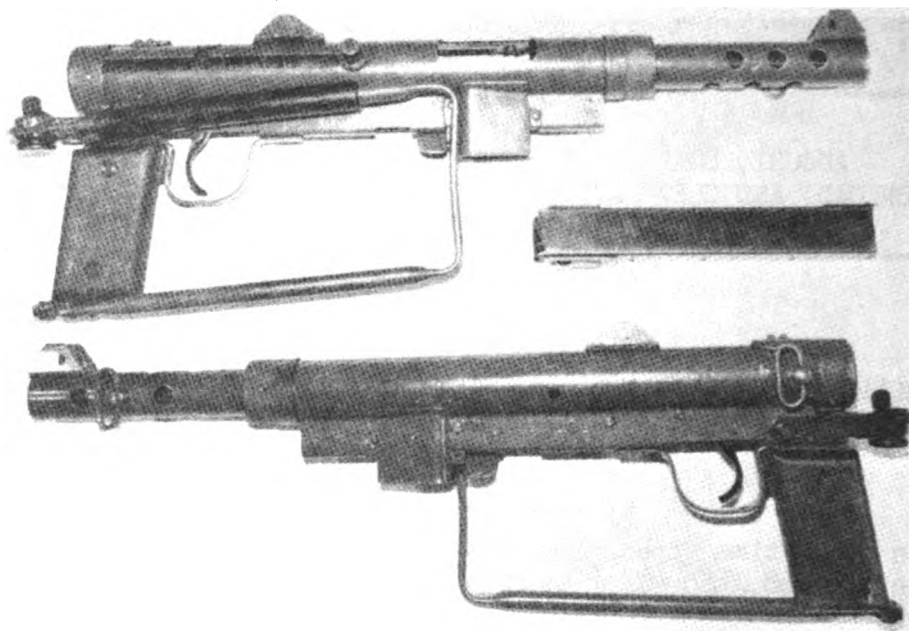


Figure 1

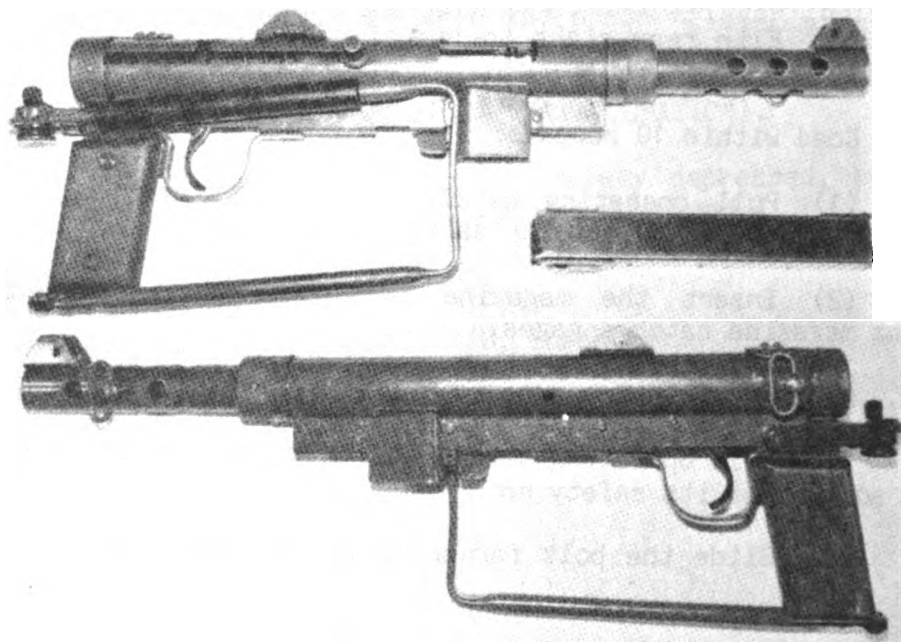


Figure 2

3-638

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage. (Follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.)

3. Unload And Clear Weapon Within 10 Seconds.

a. Unload:

(1) Press magazine catch.

(2) Remove magazine.

b. Clear:

(1) Pull operating handle to rear.

(2) Inspect chamber for cartridges.

(3) Pull trigger and ease bolt forward.

(4) Press the operating handle inward to lock the bolt.

REFERENCE:

None

331-915-0155

 MAINTAIN A SWEDISH M45B SUBMACHINEGUN, MAGAZINE, AND AMMUNITION

CONDITIONS:

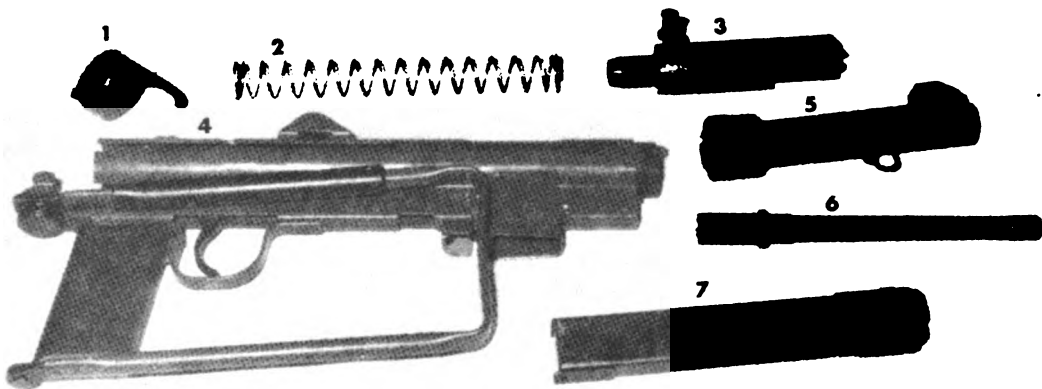
You will be given an M45B, five rounds of 9mm Parabellum ammunition; a magazine; cleaning rod, wire bore brush, chamber brush, and toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes.



SMG M45B SWEDEN

- | | |
|------------------|------------------|
| 1. Receiver Cap | 5. Barrel Jacket |
| 2. Recoil Spring | 6. Barrel |
| 3. Bolt | 7. Magazine |
| 4. Receiver | |

Figure 1

a. Clear weapon within 10 seconds, leaving bolt unlocked and magazine out.

b. Remove driving spring:

(1) Press button in middle of receiver cap.

(2) Hold button in and rotate cap counterclockwise until it releases.

(3) Ease cap rearward and remove.

(4) Pull driving spring out of receiver.

c. Pull bolt handle to rear, removing bolt from receiver.

d. Remove barrel:

(1) Press barrel nut lock at rear of barrel nut.

(2) Unscrew barrel nut.

(3) Pull barrel jacket and barrel nut forward off receiver.

(4) Pull barrel forward and out of receiver.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Reassemble Weapon Within 3 Minutes.

a. Replace barrel:

(1) Insert barrel into receiver and twist barrel until it is seated and cannot rotate.

(2) Place barrel jacket over barrel. (Be sure jacket slot engages key protruding from top front of receiver.)

(3) Finger-tighten barrel nut.

b. Replace bolt:

(1) Slide bolt into receiver, large end first so that handle is aligned with long slot.

(2) Point muzzle down and press trigger (bolt will go forward).

(3) Insert driving spring into receiver until it seats on bolt.

(4) Place receiver cap over spring.

(5) Press cap forward aligning cap's hook with left side of plate on receiver top.

(6) With hook in front of plate, rotate cap clockwise until it locks in place.

c. Press in bolt handle.

7. Perform A Function Check Within 10 Seconds.

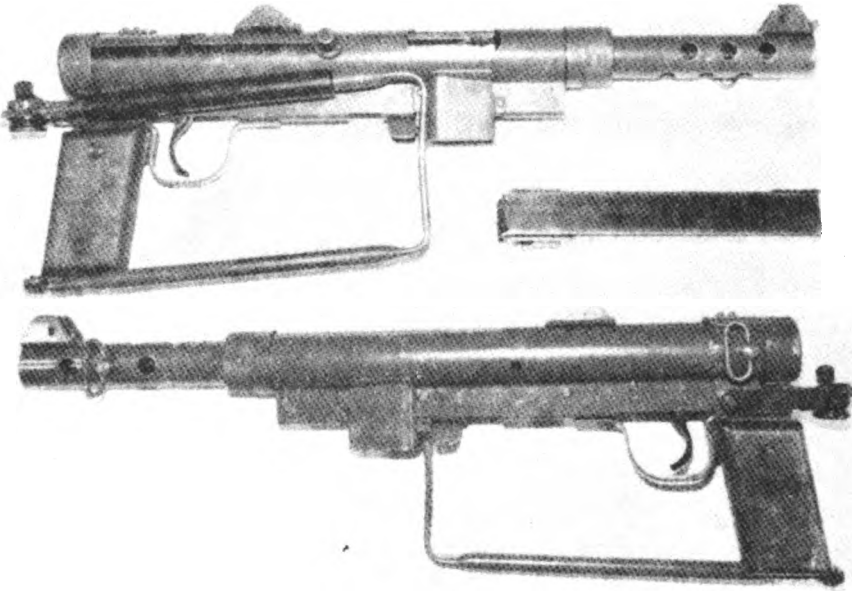


Figure 2

a. Push in on bolt handle ("SAFE").

- b. Pull bolt handle to rear (bolt should not go forward).
- c. Pull bolt handle out and to rear until bolt locks to rear.
- d. Depress trigger (bolt should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0156

LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A DANISH MADSEN M1950 SUBMACHINEGUN

CONDITIONS:

You will be given a Madsen M1950 and a magazine containing 29 rounds of 9 x 19mm ammunition and an inert round.

STANDARDS:

Within the time specified, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Load And Fire Weapon.

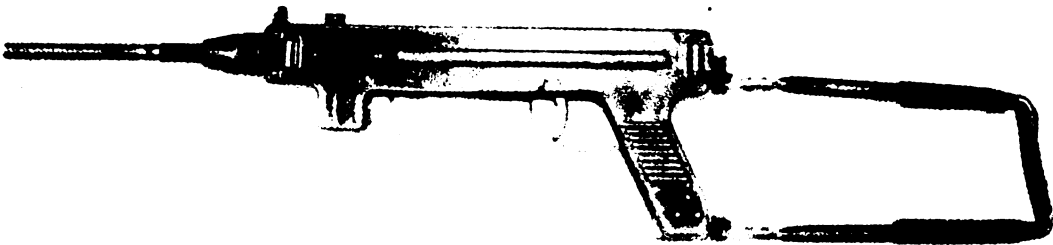
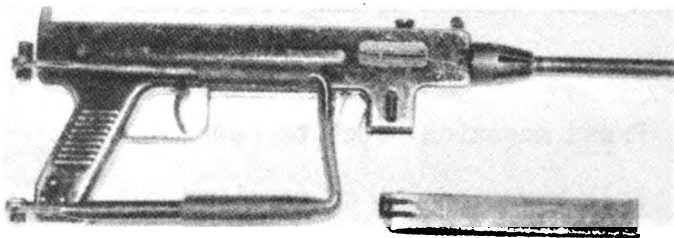


Figure 1

a. Load within 10 seconds:

- (1) Depress the grip safety.
- (2) Draw operating handle fully to rear and ease it forward until the bolt is caught by the sear.
- (3) Place safety in rearward position ("SAFE").
- (4) Insert loaded magazine into magazine opening until catch snaps into place.

b. Fire within 5 seconds:

- (1) Move safety forward ("FIRE").
- (2) Aim, press grip safety, and fire.
- (3) Weapon will fire until either trigger is released or magazine is empty. (Bolt will remain forward when the last round has been fired.)

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage. (Follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.)

3. Unload And Clear Weapon Within 10 Seconds:

a. Unload:

- (1) Press magazine catch to rear.
- (2) Pull magazine out of receiver.

b. Clear:

- (1) Pull bolt to rear.
- (2) Inspect ejection port to insure that no cartridges are present.
- (3) Hold operating handle while pressing grip safety and trigger and ease operating handle forward.

REFERENCE:

None

331-915-0157

**MAINTAIN A DANISH MADSEN M1950 SUBMACHINEGUN,
MAGAZINE, AND AMMUNITION**

CONDITIONS:

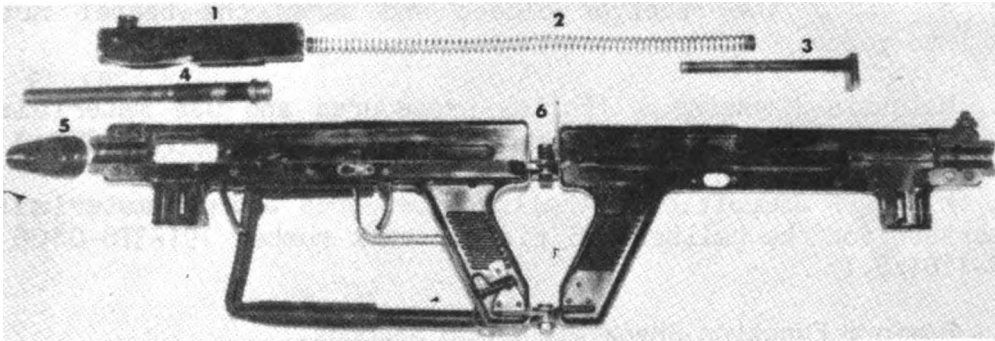
You will be given a Madsen M1950; five rounds of 9 x 19mm ammunition; a magazine; cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 2 Minutes.



SMG M50 MADSEN DANISH

- | | |
|------------------------|-----------------------|
| 1. Bolt | 4. Barrel |
| 2. Recoil Spring | 5. Barrel Bearing Nut |
| 3. Recoil Spring Guide | 6. Receiver |

Figure 1

- a. Clear the weapon within 10 seconds (do not insert magazine).
 - b. Unscrew and remove the barrel nut.
 - c. Swing the receiver open.
 - d. Lift the barrel out.
 - e. Pull the rear end of the driving spring guide forward out of its seat and remove the guide and spring.
 - f. Lift the bolt out of the receiver.
3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)
4. Reassemble Weapon Within 4 Minutes.
- a. Place the bolt back into the right receiver shell.
 - b. Insert the driving spring and its guide into the bolt.
 - c. Force the rear end of the guide into its seat in the rear of the receiver.
 - d. Lay the barrel onto its seat in the front end of the receiver and insure that the flange on the barrel fits into the receiver groove.
 - e. Swing the receiver closed and screw the barrel nut back into place.
5. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)
6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)
7. Perform Function Check Within 10 Seconds.
- a. Press grip safety and pull operating handle to rear and ease it forward until bolt is caught by sear.
 - b. Push safety to rear position ("SAFE").
 - c. Press trigger (bolt should not go forward).
 - d. Push safety to forward position ("FIRE").

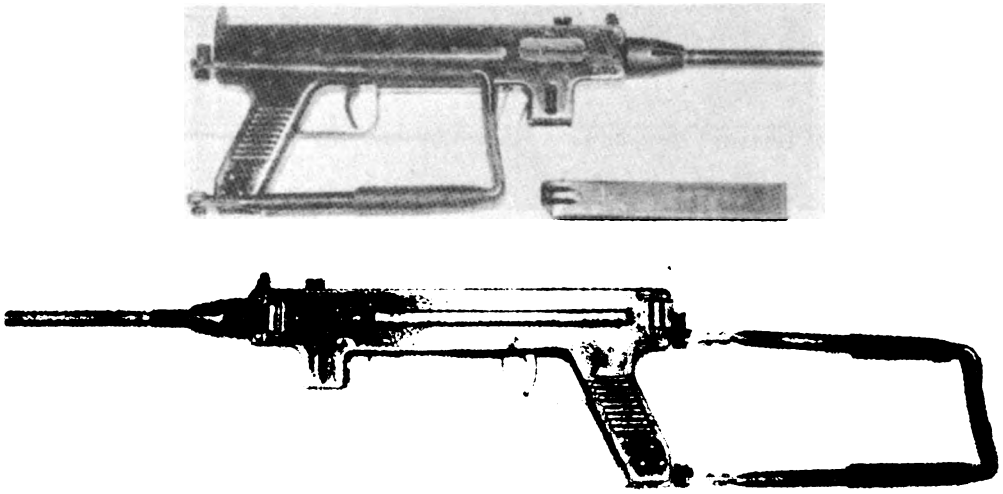


Figure 2

e. Press trigger (bolt should go forward).

f. Keeping trigger depressed, pull operating handle to rear and release it (bolt should go fully forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0158

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A SOVIET PPSH41 SUBMACHINEGUN

CONDITIONS:

You will be given a PPSH41 and a magazine containing 29 rounds of 7.62 x 25mm "P" ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon.

a. Adjust:

(1) Set the rear sight for the required range (the "10" setting for 100 meters and the "20" setting for 200 meters.)

(2) Slide the selector forward for automatic fire and to rear for single fire.

b. Load within 10 seconds:

(1) Insure operating handle is pulled out.

(2) Cock the weapon by pulling the operating handle to rear.

(3) Push the safety catch into the "SAFE" position if the weapon is not going to be fired immediately.

(4) Insert the loaded magazine and push it up until the catch engages.

c. Fire within 5 seconds:

(1) Pull the operating handle out to the "FIRE" position.



Figure 1.

(2) Aim and squeeze the trigger. (The bolt will stay open when the trigger is released. After the last round is fired, the bolt will remain closed.)

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage. (Follow procedures prescribed for the German G3A4 rifle, task number 331-915-0073.)

3. Unload And Clear The Weapon Within 10 Seconds.

a. Unload:

- (1) Unfold the magazine catch and press it forward.
- (2) Pull the magazine down and out of the weapon.

b. Clear:

- (1) Pull operating handle to rear and release it.
- (2) Check chamber to insure no rounds are present.

(3) Hold the operating handle while pressing the trigger and ease the bolt forward.

(4) Slide the safety catch into the "SAFE" position.

REFERENCE:

None

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331-915-0159

MAINTAIN A SOVIET PPSH41 SUBMACHINEGUN, MAGAZINE, AND AMMUNITION

CONDITIONS:

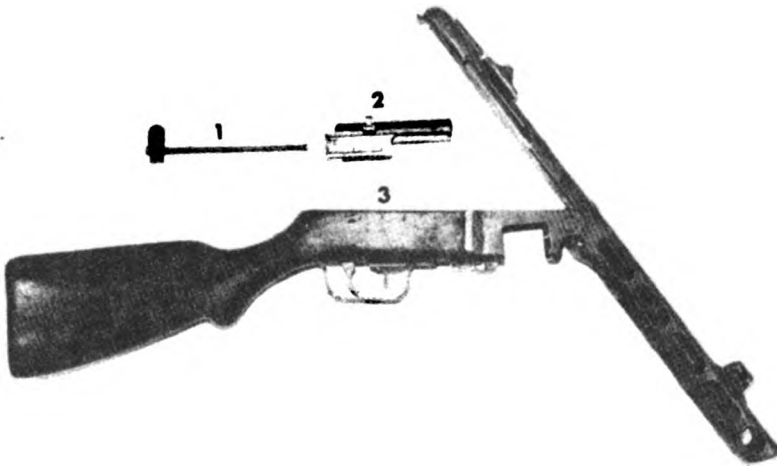
You will be given a PPSH41; five rounds of 7.62 x 25mm pistol ammunition; a magazine; cleaning rod, wire bore brush, chamber brush, toothbrush; bore cleaner, LSA or LAW lubricant, bore patches, and clean, dry rags.

STANDARDS:

Within 50 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon And Magazine Parts. (See figs. 1 and 2.)
2. Disassemble Weapon Within 30 Seconds.



SMG PPSH 41 SOVIET

- | | |
|---------------------------|----------------------------|
| 1. Recoil Spring & Buffer | 3. Barrel & Receiver Group |
| 2. Bolt | |

Figure 1
3-655

- a. Clear the weapon within 10 seconds (leave the magazine out).
- b. Press in on the receiver catch and swing the barrel down.
- c. Pull the operating handle to rear and up.
- d. Rotate the bolt, driving spring assembly, and buffer up and out of the receiver.
- e. Pull the driving spring assembly from the bolt and remove the buffer.
- f. Remove the trigger mechanism.

- (1) Unscrew the large screw behind the receiver.

- (2) Pull the trigger mechanism down and out of the receiver.

3. Clean The Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Reassemble Weapon Within 1 Minute.

- a. Replace trigger mechanism:

- (1) Engage the lugs on the front of the mechanism into the receiver and swing it up into place.

- (2) Retighten the screw.

- b. Insert the driving spring assembly into the bolt and place the buffer, flat side toward the bolt, over the spring.

- c. Place the tapered end of the driving spring assembly into the hole in the rear of the receiver.

- d. Pull the bolt back and swing it into position in the receiver.

- e. Swing the receiver shut and insure the catch is engaged.

6. Maintain Ammunition. (Follow procedures and use materials prescribed for the caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

7. Perform Function Check Within 20 Seconds.

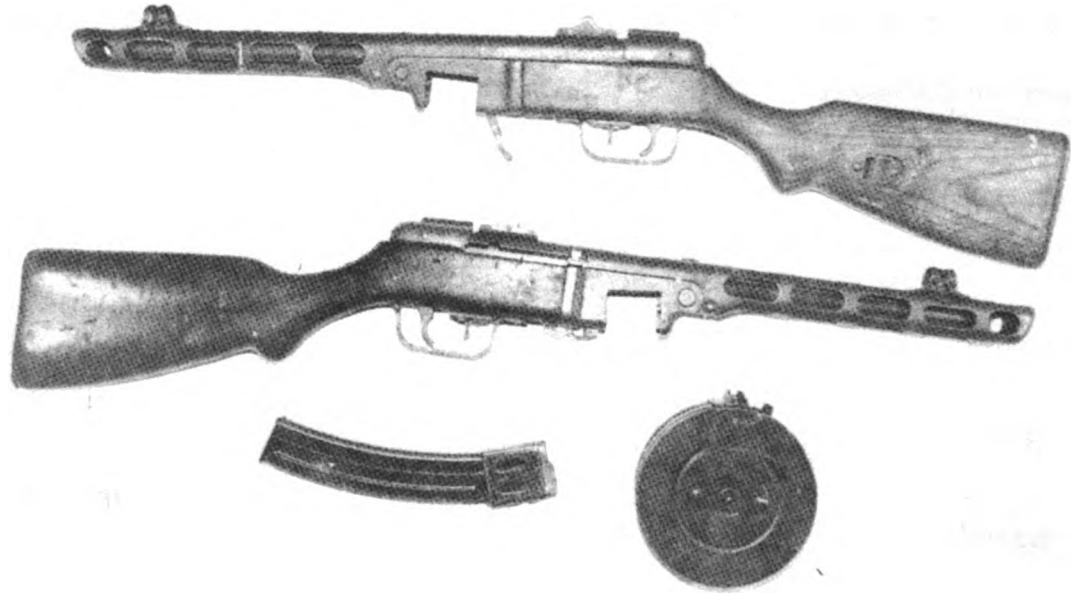


Figure 2

- a. Insure safety catch is not pushed in.
- b. Pull operating handle to rear and release it.
- c. Push in on safety catch ("SAFE").
- d. Press trigger (bolt should not go forward).
- e. Push selector to rear ("SEMIAUTOMATIC").
- f. Pull out on safety catch.
- g. Press trigger (bolt should go forward).
- h. Push selector forward ("AUTOMATIC").

1. Keeping trigger pressed, pull operating handle to rear and release it (bolt should go forward).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0160

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND CLEAR
A GERMAN MP5 SUBMACHINEGUN

CONDITIONS:

You will be given an MP5 and a magazine containing 29 rounds of 9 x 19mm ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, And Fire Weapon.

a. Adjust:

(1) The "L" type rear sight is graduated for 200 and 300 meters. Flip the sight to the specified range.

(See figs 1 and 2.)



Figure 1

(2) The drum type rear sight has a 100-meter "V" notch plus 200-, 300-, and 400-meter apertures. Turn the drum sight to the specified range.



Figure 2

b. Load within 10 seconds:

(1) Place rifle on "SAFE" by rotating selector to its uppermost position.

(2) Hold magazine by its base at a slight forward angle.

(3) Seat top front lip of magazine into receiver.

(4) Insert magazine into housing.

(5) Pull magazine base to rear until magazine catch snaps into place.

(6) Unfold operating handle, pull it to rear, and release it.

c. Fire within 5 seconds:

(1) Rotate the selector down from "SAFE" position (middle position for "SEMI-AUTOMATIC" and lowest position for full "AUTOMATIC" fire).

(2) Using a normal sight picture, aim and fire. (Bolt remains forward when last round is fired. The operating handle remains forward during firing.)

2. Take Immediate Action To Reduce A Stoppage.

a. Apply immediate action within 5 seconds:

(1) Tap upward on the bottom of magazine.

(2) Unfold operating handle, pull it fully to the rear, and release it.

(3) Attempt to fire weapon.

b. If immediate action fails to reduce the stoppage, proceed as follows:

(1) Pull operating rod rearward and rotate up into retaining notch; inspect chamber for obstruction.

(2) If chamber is obstructed, turn in weapon.

(3) If chamber is clear, insert another magazine, release operating handle, and attempt to fire.

(4) If weapon still fails to fire, unload, clear, and turn in.

3. Unload And Clear Weapon Within 10 Seconds.

a. Unload:

(1) Press magazine catch forward.

(2) Remove magazine.

b. Clear:

(1) Rotate selector upward to "SAFE" position.

(2) Pull operating handle to rear, rotating it into retaining notch.

(3) Inspect chamber.



Figure 3

(4) Pull operating handle to rear, rotating down out of the retaining notch and release it.

(5) Move selector to fire position.

(6) Press trigger and return selector to "SAFE."

REFERENCE:

None

331-915-0161

MAINTAIN A GERMAN MP5 SUBMACHINEGUN, MAGAZINE, AND AMMUNITION

CONDITIONS:

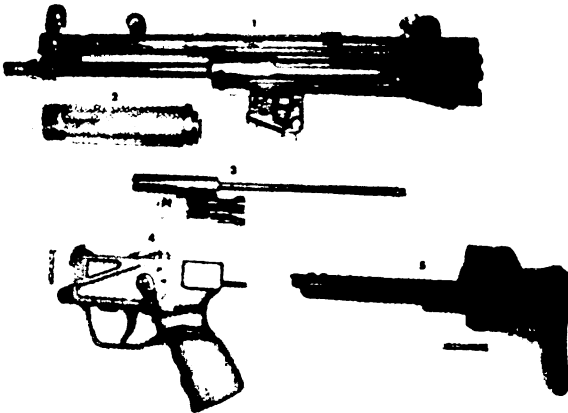
You will be given an MP5; five rounds of 9 x 19mm ammunition; a magazine; cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, linseed oil, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 50 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts.
2. Disassemble Weapon Within 2 Minutes.



SMG MP5 GERMANY

- | | |
|------------------------------|--|
| 1. Receiver Group | 4. Trigger Mechanism & Retaining Pin |
| 2. Handguard & Retaining Pin | 5. Retractable Buttstock & Retaining Pin |
| 3. Bolt Assembly | |

Figure 1

- a. Clear and set on "SAFE" within 10 seconds (do not pull trigger).
 - b. Remove stock retaining pins and stock.
 - c. Allow trigger group to hang down on its front pin.
 - d. Point the muzzle upward, pull operating handle to rear, and remove bolt assembly.
 - e. Turn bolthead 90° to right and pull out of carrier.
 - f. Turn locking cam until lug clears carrier.
 - g. Remove locking cam, firing pin, and spring.
3. Disassemble Magazine:



Figure 2

- a. Use a pointed object to raise the rear of the magazine base until the indentation on the base is clear of the magazine.
- b. Grasp the magazine with either hand so that one finger covers the base.

c. Remove the base and guide the spring, one coil at a time, to clear the retaining lips of the magazine.

d. Remove and separate the magazine spring and follower.

4. Clean Weapon And Magazine.

NOTE: (1) Cleaning compound solvent (CR) is used to clean metallic or plastic parts of weapon. This cleanser has preservative properties and provides temporary protection against rust. In the absence of CR, volatile mineral spirits, paint thinner, and drycleaning solvent are acceptable as noncorrosive cleaning solvents.

(2) The following lubricants are used:

(a) Lubricating oil, general purpose, PL Special, is a thin oil used for lubricating above 00° F and for providing temporary protection against rust.

(b) Engine oil SAE 10 may be used when lubricating and preservative oil cannot be obtained. When engine oil is used, the weapon must be inspected, cleaned, and oiled frequently.

(c) LAW weapons lubricating oil is to be used at temperatures below 00° degrees F.

(3) Cotton wiping rags should be soft and absorbent and free of dust, alkali, or corrosive agents.

a. Clean metallic and plastic parts of weapon using cleanser noted above.

b. Dry weapon thoroughly and apply a light coat of oil to all metallic surfaces.

c. Clean wooden parts with a dry rag and rub lightly with linseed oil (rub with linseed oil only occasionally).

5. Maintain Ammunition. (Follow procedures and use materials prescribed for caliber .45 pistol, task number 191-376-0105, FM 7-11B1/2.)

6. Reassemble Magazine.

a. Reposition the spring inside the follower with the rectangular-shaped end of the spring against the rear of the follower.

- b. Replace the follower and spring inside the magazine.
- c. Replace the magazine base.

7. Reassemble Weapon Within 4 Minutes.

a. Insert locking cam and firing pin with spring into bolthead. Insure the lug on locking cam aligns with rounded side of bolthead.

b. Place bolthead (bolt face down) on firm surface and place bolt carrier on assembled bolthead/locking cam unit.

c. Seat bolthead against carrier by striking rear end of bolt carrier with hand.

d. Turn bolthead slightly to left pulling it forward about one-fourth of an inch and then rotating to left taking care not to push bolthead back into carrier. (Pushing bolthead back into carrier will lock rollers outward, preventing proper assembly.)

(1) If this happens, correct it by swinging trigger group down on its pin.

(2) Reverse bolt unit and insert into receiver as far as possible.

(3) Strike projecting driving spring tubular housing (on bolt carrier) causing rollers to retract into bolt.

(4) The entire unit will now go farther into receiver.

(5) Remove reversed bolt unit and continue.

e. When locking rollers are flush with sides of bolthead, insert complete bolt assembly into receiver.

f. Point muzzle down, allowing bolt to slide forward.

g. Swing trigger group up into place.

h. Slide butt over rear of receiver, insuring that the driving spring enters recess in bolt carrier.

i. Replace takedown pins in receiver.

8. Perform Function Check Within 20 Seconds.



Figure 3

- a. Place selector on "SAFE."
- b. Depress trigger (hammer should not go forward).
- c. Place selector in middle position ("SEMI-AUTOMATIC" fire).
- d. Depress trigger (hammer should go forward).
- e. Release trigger and depress again (trigger should lock).
- f. Place selector in lowest position ("AUTOMATIC" fire).
- g. Keeping trigger depressed, pull operating handle to rear and release it.
- h. Release trigger and depress it again (hammer should remain in the forward position).

REFERENCE:

FM 7-11B1/2, Soldier's Manual, 11B, Infantryman

331-915-0162

ADJUST, LOAD, FIRE, REDUCE A STOPPAGE, UNLOAD, AND
CLEAR A CZECH VZ23 SUBMACHINEGUN

CONDITIONS:

You will be given a VZ23 and a magazine containing 39 rounds of 9 x 19mm ammunition and an inert round.

STANDARDS:

Within the time specified, adjust, load, fire, reduce a stoppage, unload, and clear the weapon.

PERFORMANCE MEASURES:

1. Adjust, Load, and Fire Weapon.

a. Adjust rear sight by rotating it to the required range in hundred meters (50-100 meters).



Figure 1

- b. Load within 10 seconds. (See fig. 2.)



Figure 2

- (1) Pull operating handle to rear.

(2) Place weapon on "SAFE" by pushing safety lever, located behind the trigger, to the right.

(3) Place a loaded magazine into the pistol grip until it locks.

- c. Fire within 5 seconds:

- (1) Push the safety lever to the left ("FIRE").

(2) Pull the trigger halfway to fire "SEMI-AUTOMATIC" or completely to fire "AUTOMATIC."

2. Take Immediate Action Within 5 Seconds To Reduce A Stoppage. (Follow procedures prescribed for the German G34 rifle, task number 331-915-0073.)

3. Unload And Clear Weapon Within 10 Seconds.

- a. Unload:

- (1) Press magazine catch.

(2) Pull magazine out.

b. Clear:

(1) Pull the operating handle back.

(2) Inspect the chamber for rounds.

(3) Hold the operating handle while pressing the trigger and ease the bolt forward.

(4) Push safety to right ("SAFE").

REFERENCE:

None

331-915-0163

MAINTAIN A CZECH VZ23 SUBMACHINEGUN, MAGAZINE, AND AMMUNITION

CONDITIONS:

You will be given a VZ23; five rounds of 9 x 19mm ammunition; a magazine; cleaning rod, wire bore brush, chamber brush, toothbrush; rifle bore cleaner, LSA or LAW lubricant, rifle patches, and clean, dry rags.

STANDARDS:

Within 45 minutes, disassemble, clean, and reassemble weapon and magazine; maintain ammunition; and perform a function check.

PERFORMANCE MEASURES:

1. Identify Weapon Parts. (See figs. 1 and 2)
2. Disassemble Weapon Within 2 Minutes.



SMG CZECH 23 (VZ 23) CZECHOSLOVAKIA

- | | |
|------------------|-----------------------|
| 1. Recoil Spring | 4. Receiver Cap |
| 2. Bolt | 5. Receiver Group |
| 3. Barrel | 6. Barrel Locking Nut |

Figure 1

3-673

a. Clear the weapon within 10 seconds, leaving the magazine out and safety off (left).

b. Remove receiver cap:

(1) Push in lock button in center of receiver cap with cartridge tip.

(2) Turn cap one-eighth turn (right or left) and remove to rear.

c. Remove bolt assembly:

(1) Pull operating handle back, starting driving springs out of the back of receiver.

(2) Slide bolt assembly rearward out of receiver.

d. Remove barrel:

(1) Use bolt assembly as tool to loosen barrel locking nut by placing it around barrel so that slots at front of bolt engage lugs of barrel locking nut.

(2) Unscrew locking nut by turning bolt counterclockwise.

(3) Pull barrel forward from receiver/barrel-jacket assembly.

3. Clean Weapon. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

4. Maintain Magazine. (Follow procedures and use materials prescribed for the German G3A4 rifle, task number 331-915-0074.)

5. Reassemble Weapon Within 3 Minutes.

a. Replace stock:

(1) Fasten stock to receiver/barrel jacket.

(2) Push stock to front and right.

(3) Replace screws on metal neck of stock and stock support.

b. Replace barrel:

(1) Push barrel to rear into receiver/barrel-jacket

assembly.

(2) Tighten barrel locking nut using the bolt assembly.

c. Replace bolt assembly:

(1) Start bolt assembly into receiver.

(2) Pull trigger and slide bolt forward.

d. Replace receiver cap:

(1) Push receiver cap against the driving spring on the end of receiver.

(2) Rotate the cap until it locks.

6. Perform Function Check Within 20 Seconds.



Figure 2

a. Pull bolt back.

b. Push safety lever to right.

- c. Depress trigger (bolt should not go forward).
- d. Push safety lever to left ("FIRE") position.
- e. Depress trigger halfway (bolt should go forward).
- f. Pull bolt back.
- g. Depress trigger (bolt should go forward).

REFERENCE:

None

APPENDIX A

REFERENCES

NOTE: All references containing information on the subjects listed in this soldier's manual may not be listed here. New material is constantly being published and present references may become obsolete. See the DA Pam 310-series and instructional material catalogs to keep up to date.

ARMY REGULATIONS (AR)

- 220-15 Journals and Journal Files
- 340-16 Safeguarding FOUO Information
- 340-17 Release of Information and Records From Army Files
- 340-18-series The Army Functional Files System
- 380-5 Department of the Army Supplement to DOD
5200.1-R

DEPARTMENT OF DEFENSE (DOD) REGULATIONS

- 5200.1-R Information Security Program Regulation

FIELD MANUALS

- 3-12 Operational Aspects of Radiological Defense
- 5-20 Camouflage
- 5-25 Explosives and Demolitions
- 5-34 Engineer Field Data
- 6-20 Fire Support in Combined Arms Operations
- 6-30 The Field Artillery Observer
- 7-7 The Mechanized Infantry Platoon and Squad
- 7-8 The Infantry Platoon and Squad
- 7-10 The Rifle Company, Platoons, and Squad
- 7-11B1/2 Soldier's Manual, 11B, Infantryman

FIELD MANUALS (FM) (continued)

- 20-32 Mine/Countermine Operations at Company Level
- 21-6 How to Prepare and Conduct Military Training
- 21-11 First Aid for Soldiers
- 21-26 Map Reading
- 21-30 Military Symbols
- 21-31 Topographic Symbols
- 21-40 NBC Defense
- 21-41 Individual NBC Defense
- 21-50 Ranger Training and Ranger Operations
- 21-75 Combat Training of the Individual Soldier and Patrolling
- 21-76 Survival, Evasion, and Escape
- 23-8 M14 and M14A1 Rifle and Rifle Marksmanship
- 23-9 M16A1 Rifle and Rifle Marksmanship
- 23-23 Anti-Personnel Mine M18A1 and M18 (Claymore)
- 23-35 Pistols and Revolvers
- 23-41 Submachineguns, Cal. .45, M3 and M3A1
- 23-65 Browning Machinegun, Caliber .50 HB, M2
- 23-67 Machinegun, 7.62mm, M-60
- 24-1 Combat Communications
- 24-18 Field Radio Techniques
- 30-5 Combat Intelligence
- 30-15 Intelligence Interrogation
- 31-35 Jungle Operations
- 31-100 (Test) Surveillance, Target Acquisition, and Night Observation (STANO) Operation

FIELD MANUALS (FM) (continued)

- 55-12 Movement of Army Units in Air Force Aircraft
- 55-13 Air Transport of Supplies and Equipment Standard Load in Air Force C-5 Aircraft
- 55-15 Transportation Reference Data
- 57-1 US Army/US Air Force Doctrine for Airborne Operations
- 57-38 Pathfinder Operations
- 71-1 The Tank and Mechanized Infantry Company Team
- 101-5 Staff Officers Field Manual: Staff Organization and Procedure

TECHNICAL MANUALS (TM)

- 3-220 Chemical, Biological, and Radiological (CBR) Decontamination
- 3-4230-204-12&P Decontaminating Apparatus, Portable, DS2, 1 1/2 Quart ABC-M11
- 5-6350-249-12 AN/GSO-151 Alarm Set, Anti-Intrusion Restricted Area (PSID)
- 9-1005-303-14 Operator, Organizational, DS and GS Maintenance Manual: Shotgun 12-Gauge Winchester Model 1200, Riot Type 20" Barrel W/E (1005-921-5483)
- 9-1345-203-12&P Land Mines
- 11-5820-498-12 Radio Sets AN/VRC-64 and AN/GRC-160
- 11-5820-667-12 Radio Set AN/PRC-77
- 11-6665-214-10 Operators Manual: Radiacmeters IM93/UD, IM93a/UD, and IM147/PD
- 11-6720-243-15 Operator's Organizational Maintenance Manual Including Repair Parts and Special Tools List: Camera Set, Still Picture KS-99
- 11-6720-253-10 Operator's Manual for Camera Set, Still Picture, KS-99C
- 38-750 Army Maintenance Management System (TAMMS)

TECHNICAL MANUALS (TM)

- 55-450-15 **Air Movement of Troops and Equipment
(Non-Tactical)**
- 57-220 **Technical Training of Parachutists**

TRAINING CIRCULARS (TC)

- 6-40-4 **Fire for Effect, Parts 1, 2, and 4**
- 7-3 **The Rifle Platoon**
- 7-3-1 **How to Defend With Mechanized Infantry and
Light Infantry Platoons**
- 21-5-7 **Training Management in Battalions**
- 21-26 **Don't Get Lost**
- 24-2 **The Automated "CEOI"**
- 30-3 **Soviet Equipment Recognition Guide**
- 30-23 **Ground Surveillance Radar**
- (C) 31-20-3 **Special Forces Air and Maritime Operations (U)**

TRADOC TRAINING TEXT (TT)

- *6-20-7 FAC/FIST Operations**

***NOTE: Available upon request from --
Commandant, US Army Field Artillery School
ATTN: ATSF-TD-TM, Fort Sill, OK 73503**

TRAINING EXTENSION COURSES (TEC) LESSONS

011-331-0073	Operate a German G3A4 Rifle
011-331-0074	Maintain a German G3A4 Rifle
011-331-0075	Operate a Belgian FN FAL Rifle
011-331-0076	Maintain a Belgian FN FAL Rifle
011-331-0077	Operate an American M2 Carbine, Magazine, and Ammunition
011-331-0079	Operate a Soviet SKS Rifle
011-331-0092	Operate a Soviet AKM Rifle
011-331-0093	Maintain a Soviet AKM Rifle, Magazine, and Ammunition
011-331-0094	Operate an American Browning Automatic Rifle (BAR)
011-331-0095	Maintain an American Browning Automatic Rifle (BAR)
011-331-0109	Maintain A soviet 7.62mm Light Machinegun (RPD)
011-331-0110	Operate a Soviet RPD 7.62mm Light Machinegun
011-331-0111	Operate a Belgian MAG58 Machinegun
011-331-0112	Maintain a Belgian MAG58 Machinegun
011-331-0144	Operate an Israeli UZI Submachinegun
011-331-0145	Maintain an Israeli UZI Submachinegun
020-071-1051-F	Control Rate and Distribution of Fire
201-113-4501-F	Preparation of Radio Set AN/PRC-27 for Operation, Part I: Installation
201-113-4502-F	Preparation of Radio Set AN/PRC-77 for Operation, Part II: Operation Checks
201-113-4503-F	Preparation of Radio Set AN/PRC-77 for Operation, Part III: Pre-Sets

TRAINING EXTENSION COURSES (TEC) LESSONS (continued)

645-093-7321-F	Prepare Electric Firing System
645-093-7322-F	Prepare Detonating Cord Firing System
901-071-0091-F	Unit Development and Training, Part 1
901-071-0092-F	Unit Development and Training, Part 2
901-071-0093-F	Developing Training Objectives
901-071-0094-F	Developing Intermediate Training Objectives
901-071-0095-F	Developing a Lesson Plan
901-071-0096-F	Selecting Methods of Instruction
901-071-0097-F	Evaluate Training
930-071-0013-F	Introduction of Land Navigation
930-071-0014-F	Measuring Distance and Azimuth
930-071-0015-F	Converting Azimuths
930-071-0016-F	Terrain Features
930-071-0017-F	The Lensatic Compass
930-071-0018-F	Land Navigation With a Map and Compass
935-071-1026-F	Collecting and Recording Information
935-071-1027-F	Analyze Weather and Terrain
935-071-1028-F	Processing Captured Personnel, Equipment, Documents
936-061-0109-F	RTP Part 2, Writing Down Messages Received by Radio
936-061-0111-F	RTP Part 4, Preparing Messages To Be Sent
936-061-0112-F	RTP Part 5, Sending and Receiving Messages
936-061-0140-F	CEOI, Part I: How To Use the CEOI
937-061-0030-F	Cover, Camouflage, and Concealment, Part I

TRAINING EXTENSION COURSES (TEC) LESSONS (continued)

941-071-0049-F	Patrolling-Reconnaissance Patrol
949-061-0001-F	Determination of Direction
949-061-0002-F	Target Location
949-061-0003-F	Locate a Target by Shift From a Known Point
949-061-0005-F	Adjustment of Indirect Fire by the Bracketing and Creeping Methods, Part I
949-061-0006-F	Adjustment of Indirect Fire by the Bracketing and Creeping Methods, Part II
952-061-0050-F	Expedient Early Warning Devices, Part I
952-061-0051-F	Expedient Early Warning Devices, Part II
952-061-0054-F	Early Warning Devices: Electronic, Part I
952-061-0055-F	Early Warning Devices: Electronic, Part II

ARMY SUBCOURSES:

USAICS 621	Interrogator
ISS 290	Introduction to Surveillance, Target Acquisition, and Night Observation (STANO)
SSO 501	Still Photography

USAIMA SPECIAL TEXTS (ST)*

31-187	SOP for SFOD's in Unconventional Warfare
31-194	Fingerprint Identification System
31-201	Special Forces Operations

GRAPHIC TRAINING AID (GTA)

7-1-26	The Infantry Leader's Reference Card
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Fort Bragg, NC 28307**

QUESTIONNAIRE

FM 31-11B-S

This is your manual, and we want to make it better to meet your needs. To do this, we need your comments and recommendations as to its adequacy in providing you with information on the tasks you should be able to do. Help us by completing this questionnaire and mailing it back to us. No postage is required. If your answer to any question is no, tell us what we need to do to improve the manual. A comments section appears after the questions. Add additional sheets if more space is needed.

	YES	NO
1. Is this manual easy to read and understand?	☐	☐
2. Do all tasks listed for each SF duty position apply to that positions?	☐	☐
3. The STANDARDS are: Too Easy ☐ Too Hard ☐ About Right ☐		
4. Do the CONDITIONS contain all items necessary to perform the tasks?	☐	☐
5. Are the PERFORMANCE MEASURES written in sufficient detail so that you can perform the task using the references?	☐	☐
6. Are the REFERENCES listed for each task available to you?	☐	☐
7. Does the manual assist you in becoming better qualified in your Special Forces duty position?	☐	☐
8. Do you perform all tasks listed for your duty position?	☐	☐
9. Are all critical tasks that you do in your duty position covered in this manual?	☐	☐
10. Are there tasks that should be added? Why?	☐	☐
11. Are there tasks that should be dropped? Why?	☐	☐
12. Do you have any additional suggestions for your Soldier's Manual?	☐	☐

COMMENTS

Question No./SM Task No. _____

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